United States Environmental Protection Agency
Washington, D.C. 20460

Water Compliance Inspection Report

Section A: National Data System Coding (i.e., PCS)

Transaction Code	NPDES	yr/mo/day	Inspection Type	Inspector	Fac Type
1 N	WAU005945	130130	=	R	3

Remarks

21 ____ 66

Inspection Work Days	Facility Self-Monitoring Evaluation Rating	BI	QA	Reserved
67 10 69	70	71	72	73 74 75 80

Section B: Facility Data

Name and Location of Facility Inspected *(For industrial users discharging to POTW, also include POTW name and NPDES permit number)*

Coldstream Farms #1
Coldstream Farms LLC
2304 Valley Highway
Deming, WA 98244-9103

Entry Time/Date	Permit Effective Date
10:15AM 01/30/13	N/A
Exit Time/Date	**Permit Expiration Date**
02:53PM 01/30/13	N/A

Name(s) of On-Site Representative(s)/Title(s)/Phone and Fax Number(s)

Galen Smith
Farm Operator
(b) (6)

Other Facility Data *(e.g., SIC NAICS, and other descriptive information)*

112120

Dairy Cattle and Milk Production

Unpermitted

Name, Address of Responsible Official/Title/Phone and Fax Number

Galen Smith
2304 Valley Highway
Deming, WA 98244-9103
(b) (6)

Contacted ☑ Yes ☐ No

Section C: Areas Evaluated During Inspection *(Check only those areas evaluated)*

☐ Permit	☐ Self-Monitoring Program	☐ Pretreatment	☐ MS4
☑ **Records/Reports**	☐ Compliance Schedules	☐ Pollution Prevention	
☑ Facility Site Review	☐ Laboratory	☑ Storm Water	
☐ Effluent/Receiving Waters	☑ Operations & Maintenance	☐ Combined Sewer Overflow	
☐ Flow Measurement	☐ Sludge Handling/Disposal	☐ Sanitary Sewer Overflow	

Section D: Summary of Findings/Comments

(Attach additional sheets of narrative and checklists, including Single Event Violation codes, as necessary)

SEV Codes SEV Description

RECEIVED

JAN 31 2013

Inspection & Enforcement Management Unit (IEMU)

Name(s) and Signature(s) of Inspector(s)	Agency/Office/Phone and Fax Numbers	Date
Jon Klemesrud	EPA R10 206 553-5068	01/31/13
Dustan Bott	EPA R10 (206) 553-5502	1/31/13
Signature of Management Q A Reviewer	**Agency/Office/Phone and Fax Numbers**	**Date**

EPA Form 3560-3 (Rev 1-06) Previous editions are obsolete.

ICIS.
2-6-2013
JJ Brown

United States Environmental Protection Agency
Washington, D.C. 20460

Water Compliance Inspection Report

Section A: National Data System Coding (i.e., PCS)

Transaction Code	NPDES	yr/mo/day	Inspection Type	Inspector	Fac Type
1 N	WAU005984	13 01 28	=	R	3

Remarks

21 ____ 66

Inspection Work Days	Facility Self-Monitoring Evaluation Rating	BI	QA	Reserved
67 10 69	70	71	72	73 74 75 80

Section B: Facility Data

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Coldstream Farms #1
Coldstream Farms LLC
2304 Valley Highway
Deming, WA 98244-9103

Entry Time/Date	Permit Effective Date
09:20 AM 01/28/13	N/A
Exit Time/Date	**Permit Expiration Date**
09:25 AM 01/28/13	N/A

Name(s) of On-Site Representative(s)/Title(s)/Phone and Fax Number(s)

Galen Smith
Farm Operator
(b) (6)

Other Facility Data *(e.g., SIC NAICS, and other descriptive information)*

112120

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Name, Address of Responsible Official/Title/Phone and Fax Number

Galen Smith
2304 Valley Highway
Deming, WA 98244-9103
(b) (6)

Contacted ☑ Yes ☐ No

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Section D: Summary of Findings/Comments

(Attach additional sheets of narrative and checklists, including Single Event Violation codes, as necessary)

SEV Codes SEV Description

Was Denied Access

RECEIVED
JAN 31 2013
Inspection & Enforcement Management Unit (IEMU)

Name(s) and Signature(s) of Inspector(s)	Agency/Office/Phone and Fax Numbers	Date
Jon Klemesrud	EPA R10 206 553-5068	01/31/13
Dustin Bott	EPA R10 (206) 553-5502	01/31/13
Signature of Management Q A Reviewer	Agency/Office/Phone and Fax Numbers	Date

EPA Form 3560-3 (Rev 1-08) Previous editions are obsolete.

ICIS.
2-6-2013
JJ Brown

NPDES
Inspection Report

Coldstream Farms #1
Deming, WA 98244

Prepared by:

Jon Klemesrud
Environmental Protection Agency, Region 10
Office of Compliance and Enforcement
Inspection and Enforcement Management Unit

Table of Contents

D. Document Request: (Continued)
Nutrient Management Plan Certification Page
Section 4 of Nutrient Management Plan

(Unless otherwise noted, all details in this inspection report were obtained from conversations with Galen Smith, Brad Smith, Travis Zender and David Haggith or from observations during the inspection.

I. Facility Information

Facility Name:	Coldstream Farms #1
Facility Contact(s):	Galen Smith - Owner & Operator Phone: (b) (6) [redacted]
	Jeff Rainey – Owner & Operator Phone: (b) (6) [redacted]
	Travis Zender – Employee
	Brad Smith – Employee
	David Haggith – Nutrient Management Consultant Phone: (b) (6) [redacted]
	Fred Lickkel – Nutrient Management Consultant
SIC Code	0241 Dairy Farms
Facility Location:	2304 Valley Highway Deming, WA 98244
GPS:	N 48.725911 W 122.200183
Mailing Address:	2304 Valley Highway Deming, WA 98244

II. Inspection Information

Inspection Date:	January 30, 2013
Inspectors:	Jon Klemesrud, Inspector EPA Region 10, OCE / IEMU (206) 553-5068
	Dustan Bott, Inspector EPA Region 10, OCE / IEMU (206) 553-5502

Arrival Time: 10:15 AM
Departure Time: 02:53 PM

Weather Condition: Partly Cloudy

Purpose: The inspection was conducted to document the facility's compliance with the Clean Water Act.

III. Permit Information

This facility is currently not covered under the Washington Concentrated Animal Feeding Operation (CAFO) National Pollutant Discharge Elimination System (NPDES) and State Waste Discharge General Permit.

IV. Background and Activity

The animals kept at this facility include adult milking cows as well as non-lactating "dry" cows. The waste generated at this facility is mainly manure and urine deposited in the barn areas. This facility is designed such that the wastes generated are collected, stored and then ultimately land applied on nearby pastures.

The Coldstream Farms #1 facility consists of a barn complex where animals are confined, fed, and maintained. It also includes a newly constructed milk parlor, a silage storage area, three below ground waste storage tanks, 4 storage lagoons and adjacent pastures. The main facility also has a solid separator. See Attachment A, Aerial Photo #1.

I attempted to conduct a routine inspection at Coldstream Farms #1 on February 29, 2012 as well January 28, 2013. Both times upon arriving to the facility I was denied access by operator Galen Smith. Mr. Smith stated that he would rather not do the inspection and that I would need to make an appointment. An Administrative Warrant for Entry and Inspection was granted on January 29, 2013 and served during this inspection January 30, 2013. The warrant is attached to this report as Attachment B.

V. Individuals Present

The inspectors present throughout this inspection included myself and Dustan Bott (EPA). The facility representatives present at different times during the inspection included Galen Smith, Travis Zender and Brad Smith. Nutrient Management Consultants for the facility, David Haggith and Fred Lickkel were also present for a portion of the inspection.

VI. Inspection Chronology

Upon arriving at the facility we began the inspection with an opening conference where we discussed the purpose and expectations of the inspection with both Brad Smith and Travis Zender.

We then conducted a portion of the facility tour with Brad Smith and David Haggith where we inspected the confinement areas, the waste storage ponds, the solid storage area, the feed and silage storage area and the mortality shed. After the facility tour Galen Smith and Fred Lickkel arrived to the facility and Brad Smith left the inspection. We then toured the milking parlor and the most recent solid and liquid application areas.

We then concluded the on-site inspection with a closing conference where I discussed the areas of concern identified during the inspection. Following the closing conference Dustan and I reviewed the facility's Nutrient Management Plan, the 2012 and 2013 application records, and the facility's 2012 soil test at David Haggith's office.

VII. Inspection Entry

This was an unannounced NPDES inspection. Dustan Bott and I arrived at Coldstream Farms #1 at 10:15 AM on January 30, 2013 with an Administrative Warrant for Entry and Inspection.

At this time Dustan and I identified ourselves as EPA inspectors and presented our credentials to the on-site facility representative Mr. Travis Zender. I informed him that the purpose of this visit was to conduct a compliance inspection to determine compliance with the Clean Water Act. I asked Mr. Zender if the owner/operator of the farm was available. Mr. Zender stated that owner Jeff Rainey was on vacation and owner Galen Smith was at a meeting off-site in the Lynden, WA. Mr. Zender stated that he would call Mr. Smith to let him know of the inspection. I gave Mr. Zender a business card along with a copy of the warrant package.

After Mr. Zender's conversation with Mr. Smith, Mr. Zender stated that farm employee Brad Smith would be helping us with the inspection until Galen could arrive. He also stated that the facility's nutrient management consultants David Haggith and Fred Lickkel would be joining us at some point as well to provide necessary documents and answer questions that he might not know the answers to.

VIII. Owner and Operator Information

According to Galen Smith he is the operator of the dairy and part owner.

IX. Number of Animals

According to Galen Smith this facility housed approximately 1000 milking cows and 100 dry cows. Roughly 200-300 young stock are kept at a neighboring farm and not included in the facility's farm plan.

X. Presence of Vegetation in the Confinement Areas

The confinement areas at this facility consist of barns with concrete floors. I did not see any vegetation in any of the confinement areas.

XI. Length of Animal Confinement

According to Galen Smith animals are confined year-round.

XII. Waste Management Process

Waste generated at this facility is mainly from the barns where the animals are confined. The scraped manure, milk house and parlor wastewater are collected in below ground waste storage tanks. This waste is then transferred into one of the four lagoons and ultimately land applied. Galen Smith stated that the last land application of liquid manure was on January 18, 2013. This application consisted of 128,000 gallons on fields 3a & 3b identified on the Nutrient Management Plan Map.

The last solids application was for three days starting on January 16, 2013 and consisted of 33 loads of a 25 yard quantity to an area visited during our inspection along Todd Creek.

According to Galen Smith, Coldstream Farms #1 owns and leases 1100 acres and 970 acres of the 1100 is spreadable acreage.

XIII. Receiving Water

The nearest receiving water is Hutchinson Creek which flows through the southwest corner of the Coldstream Farms #1 property. Hutchinson Creek then flows into the South Fork of the Nooksack River.

XIV. Areas of Concern

We inspected the facility including the confinement areas and the waste handling systems. No discharge was observed during the inspection however I identified three areas of concern. These areas of concern is described as follows:

A. Storage Pond #1 Capacity: At the time of inspection, the northwest storage pond was at maximum capacity. It appeared that prior to the inspection, a small amount of the liquid from the pond had exited the pond and travelled near a grassy area north of the facility. I informed Galen Smith that although surface water wasn't close in proximity to the pond, the pond should not be discharging other than designed. See Attachment C, Photos #31-37.

B. Construction during 2011 & 2012: According to Galen Smith, two large construction projects had occurred in 2011 and 2012. A waste storage pond was constructed as well as a new barn and milking parlor.

Based upon the use of the Google Earth Measurement Tool, the estimated area of disturbance associated with the new lagoon is approximately 1.8 acres. The estimated area of disturbance associated with the barn construction is

approximately 1.25 acres. According to Mr. Smith, Coldstream Farms #1 performed the construction work.

I informed Galen Smith that construction disturbing more than an acre would require an NPDES permit for coverage for stormwater discharges associated with the construction activity.

Galen Smith stated that the new lagoon was constructed during the summer of 2011 and the new barn and milking parlor was constructed in July of 2011 and was completed and in operation April 18, 2012. He stated that he thought he had completed all the necessary paperwork through the Whatcom County Planning Office as well as Washington Ecology's S.E.P.A (State Environmental Policy Act) program. He stated that all of the records were filed to the county courthouse.

C. Stormwater Collection in Relation to Composting Area: At the time of inspection, I observed one of the facility's stormwater catch basins located on the north end of the facility to be near a heavily used composting storage area. The compost storage area is covered however during loading and unloading of the compost it appears that some of the composting debris has the potential to enter the stormwater catch basin and be discharged to the field north of the main facility. See Attachment C, Photos # 38, #39, #42-49.

XV. Closing Conference

A closing conference was held following the inspection. During the closing conference I discussed the area of concerns identified above.

Report Completion Date: 03/14/13

Lead Inspector Signature:

ATTACHMENT A

Aerial Photograph

Aerial Photo #1: Main Facility

ATTACHMENT B

Administrative Warrant for Entry and Inspection

The Honorable Judge Tsuchida

UNITED STATES DISTRICT COURT
WESTERN DISTRICT OF WASHINGTON
AT SEATTLE

In The Matter Of: COLDSTREAM FARMS #1, 2304 Valley Highway, Section 5, Township 37, Range 5, near Deming, Whatcom County, Washington.	No. ~~[PROPOSED]~~ **ADMINISTRATIVE WARRANT FOR ENTRY AND INSPECTION PURSUANT TO 33 U.S.C. 1318(a)**

TO: Any Officer, Employee, or Authorized Representative of the United States Environmental Protection Agency, and Any Other Accompanying Federal, State, or County Officer.

The United States of America has filed an Application for *Ex Parte* Administrative Warrant and accompanying Declarations of Jon Klemesrud and Steven Potokar, U.S. Environmental Protection Agency. The Application is for an Administrative Warrant for entry, inspection, collection of information, taking of photographs and samples, and copying and taking of records (for copying) at a property known as Coldstream Farms #1, located at 2304 Valley Highway, near Deming, Whatcom County, Washington, and areas where manure, wastewater, litter, or other effluent sources have come to be located (the "facility" or "property").

UNITED STATES ATTORNEY
700 STEWART STREET, SUITE 5220
SEATTLE, WA 98101-1271
(206) 553-7970

The Application and Declarations establish that the activities included in this Warrant are necessary and appropriate in order to determine whether the facility is in compliance with statutory and regulatory requirements under the federal Clean Water Act ("CWA"), 33 U.S.C. § 1251 *et. seq.* The Application and Declarations establish that EPA is authorized by the CWA to conduct the inspection activities set forth herein. Specifically, the Court finds that reasonable grounds exist for an entry pursuant to Section 308 of the CWA, 33 U.S.C. § 1318, and for the issuance of an Administrative Warrant for entry and inspection.

WHEREFORE, you are hereby authorized to enter the above described facility, and as necessary, re-enter, to conduct the following activities:

1. Enter the facility during reasonable business hours.
2. Inspect, monitor, sample, or test surface water, soils, and other materials at the facility.
3. Inspect, copy, or seize records, reports, or other documents relating to the facility's waste management and compliance with the CWA. If the facility does not provide access to photocopiers, EPA may temporarily remove certain documents to be photocopied.
4. Take photographs or samples relating to owner's and operator's compliance with the CWA.
5. Interview facility representatives or employees in regard to waste management at the property and compliance with the CWA.

UNITED STATES ATTORNEY
700 STEWART STREET, SUITE 5220
SEATTLE, WA 98101-1271
(206) 553-7970

The inspection activities shall begin as soon as practicable after issuance of this Warrant, shall be conducted in a reasonable manner, and shall be completed with reasonable promptness – i.e., no later than ten (10) days from the date hereof (unless this Warrant is renewed or extended).

You are authorized to bring to the above described premises and to utilize there whatever equipment, machinery, or other tools are necessary to conduct the inspection.

If property is seized pursuant to this Warrant, you shall give the person from whom or from whose premises the property is taken, a copy of this Warrant and a receipt for the property taken, or shall leave the copy and receipt at the place from which the property is taken.

A prompt return of this Warrant showing that the inspection has been completed, accompanied by a written inventory of any property taken, shall be made to this Court no later than ten (10) days from completion of the inspection. The inventory shall be made in the presence of the person executing the Warrant and of the person from whose possession or premises the property is taken, if they are present, or in the presence of at least one credible person other than the person making such inventory, and it shall be verified by the person executing the Warrant.

DATED: Jan 29, 2013

United States Magistrate Judge

UNITED STATES ATTORNEY
700 STEWART STREET, SUITE 5220
SEATTLE, WA 98101-1271
(206) 553-7970

ATTACHMENT C

Photograph Documentation

All photographs were taken by Dustan Bott on January 30, 2013

(Photographs on Attached CD)

Photograph Log for Coldstream Farms #1 NPDES Inspection 1/30/13

(1) DSCN0168.JPG: Small confinement area where cows treated with antibiotics are confined. Area drains to pump in photo 2.

(2) DSCN0169.JPG: Pit and pump for transferring manure from this area to underground tank.

(3) DSCN0170.JPG: Looking NE @ one of the lagoons.

(4) DSCN0171.JPG: Looking NW at same lagoon in photo 3.

(5) DSCN0172.JPG: Area where some of the manure from confinement areas at facility is scraped to. The manure is pumped from this pit to solid separator. Liquid waste then goes to lagoons and solids to bedding master or land application on fields.

(6) DSCN0173.JPG: View of solids pile in front of bedding master machine (in barn on the left).

(7) DSCN0174.JPG: Looking N towards pit in photo 5 (in background of photo).

(8) DSCN0175.JPG: Looking S at some of the confinement areas and cow walkways at facility.

(9) DSCN0176.JPG: Looking S at feed and commodity storage area at facility.

(10) DSCN0177.JPG: Another commodity and feed storage area at facility.

(11) DSCN0178.JPG: Looking N at overview of part of the facility.

(12) DSCN0179.JPG: Looking S at silage storage area.

(13) DSCN0180.JPG: Looking SE at another view of silage storage area.

(14) DSCN0181.JPG: The drain from the silage storage area. Drains to a sump (in photos 15 and 16) and is then pumped to pit and then to lagoons.

(15) DSCN0182.JPG: A look inside the sump that collects the water from the drain by the silage.

(16) DSCN0183.JPG: Overview of sump and pump area in photo 15.

(17) DSCN0184.JPG: New barn (in background of photo) that is now the primary confinement area.

(18) DSCN0185.JPG: Outside view of new milking parlor building.

(19) DSCN0186.JPG: Looking inside new confinement barn in photo 17.

(20) DSCN0187.JPG: Closer view of the automatic scrapers in new barn.

(21) DSCN0188.JPG: A view of the drain for area between milking parlor and new barn. Rain gutters on milking parlor in photo are connected to an underground pipe that goes into a nearby field (uncontaminated stormwater).

(22) DSCN0189.JPG: Overview of area that drains into drain in photo 21.

(23) DSCN0190.JPG: View of the north side of the new barn.

(24) DSCN0191.JPG: Pit collection area for new barn, which is then pumped to solid separator.

(25) DSCN0192.JPG: Looking E from SW corner of the first (western most one) of three lagoons in a row on the N side of facility.

(26) DSCN0193.JPG: Looking N at SW corner of lagoon in previous photo.

(27) DSCN0194.JPG: Looking NE at east lagoon north of facility.

(28) DSCN0195.JPG: Looking N between two lagoons, the eastern most lagoon is on the right.

(29) DSCN0196.JPG: Looking NW at the middle lagoon.

(30) DSCN0197.JPG: Looking SE at the eastern most lagoon.

(31) DSCN0198.JPG: Looking SE at west lagoon.

(32) DSCN0199.JPG: Closer view of the area of the west lagoon that overflowed into the field.

(33) DSCN0200.JPG: Taken from the north side of the west lagoon, looking at where the overflow went into the field.

(34) DSCN0201.JPG: Closer view of the low spot in the west lagoon.

(35) DSCN0202.JPG: Another view of the overflow area at the west lagoon.

(36) DSCN0203.JPG: Another view of the overflow area at the west lagoon.

(37) DSCN0204.JPG: NW corner of the west lagoon.

(38) DSCN0205.JPG: View of the drain east of the shed where the bedding master is and some solids are stored.

(39) DSCN0206.JPG: Closer view of the drain in photo 38 and the area that drains to it.

(40) DSCN0207.JPG: Mortality shed at the facility (where the dead calves are taken to be composted).

(41) DSCN0208.JPG: Looking inside the mortality shed.

(42) DSCN0209.JPG: Photo of the area where the drain in photos 38 and 39 goes to (from the blue pipe).

(43) DSCN0210.JPG: Another view of area in photo 42.

(44) DSCN0211.JPG: View of the area west of the bedding master shed.

(45) DSCN0212.JPG: Closer view of area in previous photo.

(46) DSCN0213.JPG: Looking SE toward facility. The low spot in the field is where the runoff from the area in photo 42 flows to.

(47) DSCN0214.JPG: The water in the low spot comes from the drain and pipe in photos 42-46.

(48) DSCN0215.JPG: Another view of the area in photo 47.

(49) DSCN0216.JPG: This is the field north of the previous photos.

(50) DSCN0217.JPG: This is an overview of the field east of the facility where liquid manure waste was applied in January 2013.

(51) DSCN0218.JPG: Another view of the field in photo 50 that was applied with liquid manure.

(52) DSCN0219.JPG: Looking E at field in photos 50 and 51.

(53) DSCN0220.JPG: This is a field where the facility recently land applied solid waste from their operation.

(54) DSCN0221.JPG: Closer view of the area in photo 53.

ATTACHMENT D

Document Request:

EPA Receipt for Samples and Documents
1/18/13 Application Risk Management (ARM) Worksheet
Nutrient Management Field Records 2012
Rainey Farms Resource Management Plan Map April 2008
South Fork Investment LLC Resource Management Plan Map June 2007
Waste Storage Document (Excel)
10/19/12 Soil Test
Nutrient Management Plan Certification Page
Section 4 of Nutrient Management Plan

US ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, DC 20460

EPA

~~TOXIC SUBSTANCES CONTROL ACT~~ JK 01/30/13

RECEIPT FOR SAMPLES AND DOCUMENTS

1. INVESTIGATION IDENTIFICATION			2. COMPANY NAME
DATE	INSPECTION NO.	DAILY SEQ. NO.	Coldstream Farms #1
01/30/13	01	01	

3. INSPECTOR ADDRESS	4. COMPANY ADDRESS
1200 6th Ave Suite 900 M/S OCE-184 Seattle, WA 98101	2304 Valley Highway Deming, WA 98244

For internal EPA use. Copies of this form may be provided to recipient as acknowledgment of the documents and samples of chemical substances and/or mixtures described below collected in connection with the administration and enforcement of the Toxic Substances Control Act.

RECEIPT OF DOCUMENT(S) AND/OR SAMPLE(S) DESCRIBED IS HEREBY ACKNOWLEDGED:

NO.	DESCRIPTION
1.	1/18/13 Application Risk Management (ARM) Worksheet
2.	Nutrient Management Field Records 2012
3.	Rainey Farms Resource Mangmnt Plan Map April 08
4.	South Fork Investment LLC Resource Mangmnt Plan Map June 07
5.	Waste Storage Document (Excel)
6.	10/19/12 Soil Test
7.	NMP Certification Page
8.	Section 4 of NMP

OPTIONAL: N/A

DUPLICATE OR SPLIT SAMPLES: REQUESTED AND PROVIDED ☐ NOT REQUESTED ☐

INSPECTOR SIGNATURE	CLAIMANT SIGNATURE
	D. Haggith
NAME: Jon Hemesund	NAME: D. HAGGITH
TITLE: Inspector	TITLE: CONSULTANT
DATE SIGNED: 01/30/13	DATE SIGNED: 1/30/13

EPA FORM 7740-1 (REVISED JULY 1996) CORE TSCA --- PREVIOUS VERSIONS ARE OBSOLETE

☆ U.S. GPO: 2001—617-481

FACILITY COPY

Application Risk Management (ARM) Worksheet

This worksheet is a pilot version. Use it ONLY with the proper guidance from WCD. It does NOT give you the license nor okay to apply manure, it only helps you evaluate field conditions.

Please fill out this worksheet for each applicable field prior to EVERY application of manure, particularly those conducted between October and the end of February to determine if manure application is appropriate and at what rate. Fill in all BLUE boxes.

Date:	1.18.13
Date you would like to apply:	Today
Dairy Name:	Coldstream
Field Number(s) or Name(s)*:	6,9,11,18
Dominant Soil Type (*required*):	Silt Loam

**You may group fields as long as they have the same soil type, risk rating, and crop. Otherwise, do a separate analysis for each field.*

Instructions: This worksheet is designed to help you avoid a runoff/discharge event during manure application.

- Please enter in appropriate information in the blue boxes for all of the criteria listed below to assess if manure application is possible for your selected field.
- If at anytime a risk warning displays the message "Stop: No Application", do NOT apply manure to your field at this time. Wait until conditions are appropriate and do the exercise again to see if application is warranted at a later date.
- After filling out this worksheet, please fax or email it to the Whatcom Conservation District (see contact info below) to document that you have gone through the appropriate analysis prior to application. This will help you avoid ill timed applications. If you do apply after doing the analysis, print a copy of the completed worksheet for your records.

Notes: Simply click on indicated cells within the worksheet to go to highlighted links. If you are unable to open the links, your security setting son your computer may be too high. Simply go to WCDs webpage (www.whatcomcd.org) to access then directly.
Cells with a small red triangle in the top right hand corner indicate that a comment or explanation is available. Simply move your mouse over the cell and the comment will pop up.

Criteria	Answers	Risk Warning	Risk Rating
WEATHER FORECAST (click HERE for helpful weather links)			
Rain in **last two days**? (*Yes or No*) *Click HERE for historical weather info*	no	**Criteria Acceptable: Continue Analysis**	Low
Amount (*total cumulative inches*)	0.25	**Caution: Be sure to only apply at recommended rates based on soil water holding capacity.**	Low-Med
Rain predicted on **day of application**? (*Yes or No*) *Click HERE for predicted precip amounts*	no	**Criteria Acceptable: Continue Analysis**	Low
Amount (*total inches*)	0	**Criteria Acceptable: A small amount of rain can actually help to incorporate manure into the top layer of soil in the 72 hours following application.**	Low
Rain predicted in the **72 hours following** application? (*Yes or No*) *Click HERE for predicted precip amounts*	no	**Criteria Acceptable: Continue Analysis**	Low
Amount (*total cumulative inches*)	0	**Criteria Acceptable: A small amount of rain can actually help to incorporate manure into the top layer of soil in the 72 hours following application.**	Low
WATER TABLE (click HERE for info on determining your water table depth)			
Depth to water table (*inches*)	36	**Criteria Acceptable: Continue Analysis**	Medium
SOIL MOISTURE / AWC (click HERE for info on determining soil moisture)			
Soil Moisture (%)	50	**Criteria Acceptable: Apply at Recommended Rates: Continue Analysis**	Low
FIELD SURFACE CONDITION			
Ponding (*Yes or No*)	no	**Criteria Acceptable: Continue Analysis**	Low
Flooding Current or Potential in 15 d (*Yes or No*)	no	**Criteria Acceptable: Continue Analysis**	Low
Frozen or snow covered ground (*Yes or No*)	no	**Criteria Acceptable: Continue Analysis**	Low

Tiles present (*Yes or No*)	no	**Criteria Acceptable: Continue Analysis**	Low
FIELD VEGETATION COVER (grass or cover/relay crop) (Click HERE for info on determining forage density)			
Quality/density of cover (%)	70	**Caution: Cover is adequate, but make sure a dense filter strip lies adjacent to any waterways.**	*Medium*
Height of Cover (*inches*)	8	**Criteria Acceptable: Continue Analysis**	Low
MANURE APPLICATION EQUIPMENT			
Below surface application (i.e., injector, aerator, incorporation within 24 hours) (*Yes or No*)	no	-	#N/A
Surface application (i.e., splash plate, Honeywagon, etc.) (*Yes or No*)	no	-	#N/A
Irrigation Sprinkler (i.e., Big Gun) (*Yes or No*)	yes	**Caution: While this method decreases compaction issues, it may increase the likelihood of runoff of manure from the surface of your field. Be sure to observe manure setbacks from critical areas at all times.**	*Medium*
VEGETATIVE TREATMENT AND MANURE APPLICATION SETBACKS *(fill out only if there is water next to your field)*			
Do you have a conduit and/or waterbody (i.e., stream, river, ditch, creek, swale, etc.) adjacent to *any* part of your field (*Yes or No*)	no	**Skip this section.**	Low
Manure setback distance (*feet*)	80	**Setback for Big Gun use must be at least 40 feet from April 16 to Sept 30, and 80 feet from Oct 1 to April 15. Be aware of drift.**	Low
Vegetative buffer width (*feet*)		**Only fill in this section if you have a vegetative buffer in place. Otherwise, leave blank.**	#N/A
Vegetative buffer grass height (*inch*)		**Only fill in this section if you have a vegetative buffer in place. Otherwise, leave blank.**	#N/A
Density of vegetation in buffer (%)		**Only fill in this section if you have a vegetative buffer in place. Otherwise, leave blank.**	#N/A
Application Risk Analysis for Surface Runoff: *(If "#N/A" appears in this field, go back and make sure ALL parameters are filled out including Soil Type at top of sheet)*	LOW RISK	**The risk associated with manure application is low. Follow all guidelines and recommendations in your Plan for proper application.**	
Maximum Recommended Application Rate:	10,000+	gal/acre	

Once complete, please click here, copy and paste, or save and attach this Excel file to an email and send it to: nembertson@whatcomcd.org, or fax it to 354-4678.

Disclaimer: *Please note, even if this worksheet says it is okay to apply, it cannot account for every variable or condition present on your field. It is your responsibility to use your best judgment and adhere to all application guidelines outlined in your plan. Always err on the side of caution to prevent unwanted discharges. Manure application practices that cause a discharge can lead to fines and/or necessitate a CAFO permit for your facility.* ***The Whatcom Conservation District assumes no responsibility for inappropriate manure application. Proper application is ultimately your responsibility.***

The Application Risk Management (ARM) System was developed by the Whatcom Conservation District. Please contact us with questions and/or submit your form to: P: (360) 354-2035 x 126, F: (360) 354-4678, E: nembertson@whatcomcd.org

Updated: 01/07/2013

U.S. Department of Agriculture		EXCEL Spread sheet		FILE NAME	wsp1200b.xls
Natural Resources Conservation Service		Version 1200b		JOB NO.	WA:
STATE	WA	PROJECT	Rainey Farms - Home farm		
BY	DJH	DATE	1/30/2013	CHECKED BY	DATE
SUBJECT	Waste Management				SHEET 1 of 6

SUMMARY SHEET

Annual Rainfall (inches) 66.0

HERD INVENTORY

	No. of Animals	Aver. Wt (lbs.)	Animal Units (1,000 lb)
Milking Cows	1,200	1,400	1,680.0
Dry Cows	200	1,400	280.0
Heifers 12-24	80	950	76.0
Heifers 0-12	250	300	75.0
Total Animal Units			2,111.0

CROP/FIELD INVENTORY

	FIELD NUMBER									
CROP DATA	1	2	3	4	5	6	7	8	9	10
ACRES	348.4	228	0	185	173.6	77.8	0	0	0	0
CROP	Orch Grass	Home Corn	Home Past	Home Grass	Corn	Drycow Past	0	0	0	0
YIELD (T/AC)	5	25	3.3	6	23	3	0	0	0	0
N REQ. (LB/UNIT WT)	60	9.8	66	60	9	66	0	0	0	0
P REQ.	8	1.5	8	8	1.5	8	0	0	0	0
K REQ.	30	6.8	34	30	6.8	34	0	0	0	0
FIELD NUTRIENT BAL.										
N - Pounds Required	104,520	55,860	-	66,600	35,935	15,404	-	-	-	-
N - Pounds Available	89,087	46,740	-	66,600	33,517	-	-	-	-	-
P - Pounds Required	13,936	8,550	-	8,880	5,989	1,867	-	-	-	-
P - Pounds Available	15,209	7,160	-	11,620	3,903	-	-	-	-	-
K - Pounds Required	52,260	38,760	-	33,300	27,151	7,936	-	-	-	-
K - Pounds Available	73,456	34,583	-	56,122	18,852	-	-	-	-	-
N (Percent of required)	85%	84%	34%	100%	93%	0%	0%	0%	0%	0%
P (Percent of required)	109%	84%	0%	131%	65%	0%	0%	0%	0%	0%
K (Percent of required)	141%	89%	0%	169%	69%	0%	0%	0%	0%	0%
Estimated Min. Acs. Req'd	280	174	-	185	151	-	-	-	-	-

WASTE APPLICATION SCHEDULE

Month	Waste Prod. (gal)	Storage Volume (gal)	Application			
			Vol Spread (gal)	Field number	Area (ac.)	Depth (in./ac.)
Carryover		0				
October	1,695,625	348,352	1,347,273	Grass	240	0.21
November	1,960,564	2,308,916	0	0	0	0.00
December	2,106,642	4,415,558	0	0	0	0.00
January	1,951,685	6,367,243	0	0	0	0.00
February	1,686,370	8,053,613	0	0	0	0.00
March	1,559,581	6,413,194	3,200,000	Grass	435	0.27
April	1,408,399	5,961,612	1,859,981	Corn	129	0.53
May	1,313,217	4,074,829	3,200,000	Grass	435	0.27
June	1,175,931	4,050,760	1,200,000	Grass	200	0.22
July	1,043,874	3,894,634	1,200,000	Grass	200	0.22
August	1,166,395	4,161,030	900,000	Grass	200	0.17
September	1,372,947	4,515,106	1,018,871	Grass	200	0.19
TOTAL VOLUMES	18,441,231		13,926,125			

NITROGEN BALANCE

Crop Area Available for Nutrient Application		**1,013 acres**
Min. Crop Acres Required for N Balance		**790 acres**
Animal Density	**2.1 AU/Acre**	**1.5 Cow/Acre**
Est. Maximum Density	**2.7 AU/Acre**	**1.9 Cow/Acre**

Max. AU Allowed
2,705.8

	N	P	K
Estimated Nutrients in Liquid (Lb/1000 gal.): (Net after storage losses)	13.3	2.3	10.7
Estimated Nutrients Retained in Solids (wet)	0.5%	0.2%	0.1%
Estimated Nutrients in Solids (Lb/T w.b.): (Net after storage losses)	7.3	3.7	2.5

U.S. Department of Agriculture | EXCEL Spread sheet | FILE NAME wsp1200b.xls
Natural Resources Conservation Service | Version 1200b | JOB NO. WA:
STATE WA | PROJECT Rainey Farms - Home farm
BY DJH | DATE 1/30/2013 | CHECKED BY | DATE
SUBJECT Waste Management | SHEET 2 of 6

HERD INVENTORY

	No. of Animals	Aver. Wt (lbs.)	Animal Units (1,000 lb.)	Nutrient and Manure Production (lbs./day/1000 lb. animal unit) N	P	K	Manure	Solids
Milking Cows	1,200	1,400	1,680.0	0.67	0.105	0.345	126.8	13.9
Dry Cows	200	1,400	280.0	0.31	0.05	0.23	57.1	6.9
Heifers 12-24	80	950	76.0	0.31	0.04	0.24	57.1	6.9
Heifers 0-12	250	300	75.0	0.31	0.04	0.24	57.1	6.9
Total Animal Units			2,111.0	0.60	0.09	0.32	112.6	12.5

STORAGE LOSSES

	RETAINED AFTER STORAGE N	P	K
Liquids	65%	90%	90%
Solids	70%	90%	90%

WEATHER STATION

Stat. Number:	8
Station Name	Clearbrook

WASTE PRODUCTION

		Gal/year	cu-ft/yr.	lbs./yr.
Annual Rainfall (inches)	66	----------		
Annual Pond Evaporation (in.)	6	----------		
Wash Water (gal/cow/day)	4	1,752,000		14,611,680
Concrete Slab Area (sq. ft.)	19,224	790,833		6,595,548
Roof Area Collected (sq. ft.)	4,472	183,968		1,534,295
Existing Pond Area Collected (sq. ft.)	144,936	5,420,317		45,205,440
Flush water (gal/day)	-	-		-
Bedding (lb./AU/day)	3	902,848	120,702	2,173,575
Bedding Unit Weight (lb./cu.ft.)	9			
Manure Collected		9,942,622	1,329,228	82,943,798
Rain Less Evaporation into Holding Pond		1,290,231		10,760,527
Average Annual Waste Produced		20,282,819		163,824,863
Solids in liquid before separation (w.b.)		6.8%	179,568	11,205,067
Separator Efficiency (TS removed)	50%	(1,639,629)	91,336	5,602,534
% Solids after separation and/or dry storage		2.8%		4,387,534
Est. Density of Sep. Solids (lb./cu-ft)	45			
Manure Collected and Handled as solid (cu-ft/yr)		150,427	27,000	1,215,000
Liquid waste volume		18,492,764		157,007,329
Solid Waste volume		1,790,055	118,336	6,817,534

	N	P	K
Estimated Nutrients in Liquid (Lb/1000 gal.): (Net after storage losses)	13.3	2.3	10.7
Estimated Nutrients Retained in Solids (% wet wt.)	0.5%	0.2%	0.1%
Estimated Nutrients in Solids (lb./ton, wet): (Net after storage losses)	7.3	3.7	2.5

Animals on Pasture

Est. % time on pasture for milk cows: 40% | Est. % time on pasture for heifers & dry cows: 75%

	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	AU-YR.
Milking Cows	0	0	0	0	0	0	0	0	0	0	0	0	0
Dry Cows	0	0	0	0	180	180	180	180	180	180	180	180	126
Heifers 12-24	0	0	0	0	0	0	0	0	0	0	0	0	0
Heifers 0-12	0	0	0	0	0	0	0	0	0	0	0	0	0
Total AU	0.00	0.00	0.00	0.00	189.00	189.00	189.00	189.00	189.00	189.00	189.00	189.00	126.0

U.S. Department of Agriculture
Natural Resources Conservation Service

EXCEL Spread sheet
Version 1200b

FILE NAME wsp1200b.xls
JOB NO. WA:

STATE	WA	PROJECT	Rainey Farms - Home farm				
BY	DJH	DATE	1/30/2013	CHECKED BY		DATE	
SUBJECT	Waste Management					SHEET	3 of 6

		FIELD NUMBER									
CROP DATA		1	2	3	4	5	6	7	8	9	10
ACRES		348.4	228	0	185	173.6	77.8				
CROP		Orch Grass	Home Corn	Home Past	Home Grass	Corn	Drycow Past				
YIELD (T/AC)		5.0	25.0	3.3	6.0	23.0	3.0				
N REQ. (LB/UNIT WT)		60.0	9.8	66.0	60.0	9.0	66.0				
P REQ.		8.0	1.5	8.0	8.0	1.5	8.0				
K REQ.		30.0	6.8	34.0	30.0	6.8	34.0				
COVER CROP											
YIELD (T/AC)											
N REQ. (LB/UNIT WT.)											
P REQ.											
K REQ											
NUTRIENT SOURCES											
N Contrib. from previous crop +/-		0	0	0	-						
N Mineraliz. from Soil OM (lb/ac)		75	75	75	100	100					
Manure Mineralization Coefficient (typical range 0.7-1.0)		1	1	1	1	1	1	1	1	1	1
Denitrification Coef.		0.85	0.85	0.70	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Volatilization Coef.		0.75	0.75	0.70	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Grazing: Number of Animals		0	0	66							
Grazing: Average Animal Weight (lb)				1000							
Number of Grazing Days		0	0	90							
Liquid Manure Applic. (in/ac/yr.)		0.78	0.56	0.00	1.13	0.40	0.00	0.00	0.00	0.00	0.00
Gallons Applied per year		7,401,788	3,484,766	-	5,655,103	1,899,591	-	-	-	-	-
Liquid Manure Available (gal/yr.)	18,441,200										
Liquid Manure Applied (gal/yr.)	18,441,200										
Liquid Manure Remaining (gal)	0										
Desired N available from manure (lbs./ac/yr.)		181	130	-	260	93	-				
Liquid Manure N Available (lbs.)	246,732										
Liquid Manure N Remaining (lbs.)	-										
Solid Manure Field Applied (tons/ac/yr.)		0.0	0.0	0.0	0.0	0.0	0.0				
Total Solid Manure Available (tons)	3,409										
Total Solid Manure Applied (tons)	-										
Solid Manure Remaining (tons)	3,409										
NUTRIENTS REQUIRED											
N (LB/AC)		300	245	217.8	360	207	198	0	0	0	0
P (LB/AC)		40	38	26	48	35	24	-	-	-	-
K (LB/AC)		150	170	112	180	156	102	-	-	-	-
NUTRIENTS AVAIL. (Lbs./ac)											
LIQUID MANURE N		181	130	-	260	93	-	-	-	-	-
P		44	31	-	63	22	-	-	-	-	-
K		211	152	-	303	109	-	-	-	-	-
SOLID MANURE N		-	-	-	-	-	-	-	-	-	-
P		-	-	-	-	-	-	-	-	-	-
K		-	-	-	-	-	-	-	-	-	-
GRAZING N		-	-	-	-	-	-	-	-	-	-
P		-	-	-	-	-	-	-	-	-	-
K		-	-	-	-	-	-	-	-	-	-
SOIL ORGANIC MATTER N		75	75	75	100	100	0	0	0	0	0
PREVIOUS CROP N		0	0	0	0	0	0	0	0	0	0
TOTAL LBS/AC N		256	205	75	360	193	-	-	-	-	-
P		44	31	-	63	22	-	-	-	-	-
K		211	152	-	303	109	-	-	-	-	-
FIELD NURTIENT BAL.											
N - Pounds Required		104,520	55,860	-	66,600	35,935	15,404	-	-	-	-
N - Pounds Available		89,087	46,740	-	66,600	33,517	-	-	-	-	-
P - Pounds Required		13,936	8,550	-	8,880	5,989	1,867	-	-	-	-
P - Pounds Available		15,209	7,160	-	11,620	3,903	-	-	-	-	-
K - Pounds Required		52,260	38,760	-	33,300	27,151	7,936	-	-	-	-
K - Pounds Available		73,456	34,583	-	56,122	18,852	-	-	-	-	-
N (Percent of required)		85%	84%	34%	100%	93%	0%	0%	0%	0%	0%
P (Percent of required)		109%	84%	0%	131%	65%	0%	0%	0%	0%	0%
K (Percent of required)		141%	89%	0%	169%	69%	0%	0%	0%	0%	0%
Estimated Min. Acs. Req'd for N Applic.		280	174	0	185	151	0	0	0	0	0

FARM SUMMARY

	N (lbs.)	P (lbs.)	K (lbs.)
Nutrients Available From All Sources:	235,944	37,892	183,012
Nutrients Required to Meet Crop Needs:	278,320	39,222	159,407
Excess (Deficient) Nutrients:	(42,376)	(1,331)	23,605
Percent of Nutrients Available to Meet Crop Needs:	85%	97%	115%

	N (lbs.)	P (lbs.)	K (lbs.)
Solids remaining			
Nutrients available	13550	10116	7240

Total Crop Area Available for Nutrient Application: 1012.8 Acres

ESTIMATED CROP ACRES REQUIRED TO

BALANCE FOR:		
	N	790
	P	1,567
	K	1,335

ESTIMATED CROP ACRES REQUIRED TO BALANCE:

for unused solids (Assuming Similar Yields and		for all farm nutrients (Proportion of Crop Acreage)	
N	0	N	790
P	0	P	1567
K	0	K	1335

U.S. Department of Agriculture			EXCEL Spread sheet		FILE NAME	wsp1200b.xls
Natural Resources Conservation Service			Version 1200b		JOB NO.	WA:
STATE	WA	PROJECT	Rainey Farms - Home farm			
BY	DJH	DATE	1/30/2013	CHECKED BY	DATE	
SUBJECT	Waste Management				SHEET	4 of 6

WASTE HOLDING POND — **HOME POND (#1)**

Est. soil compaction factor	25%
Pond Factor of Safety	0%
25 Yr./ 24 hr Rain on Pond (Inches	3.7

Pond Parameters	Feet		Cubic Yds	Gallons
Inside Top Length	230			
Inside Top Width	150			
Inside Side Slope (x:1)	2.0			
Outside Side Slope (x:1)	3.0			
Freeboard	1.0			252,415
Dead Storage Depth	1.0			170,075
Dike Top Width	10.0			
Liner Thickness	1.0		1,709	
Average Ground Surface EL.	100.0			
Low Ground Surface EL. @ Dike	100.0			
Pond Top EL.	105.0			
Pond Bottom EL. (Before Liner)	95.0			
Stripping Depth			0	
25 Yr./ 24 hr Runoff from field		0	sq.ft.	0
Maximum Dike Height	5.0			
Average Dike Height	5.0		3,851	
Excavation Depth (Before Liner)	5.0		4,719	
Pond Bottom EL. (After Liner)	96.0			
Cut/Fill Ratio		0.85		
25 Yr./ 24 hr Rain on Pond		0.31		79579
Outside Bottom Length	280			
Outside Bottom Width	200			
Above ground Pond Volume		3.54	ac-ft	
Gross Pond Volume				1,891,146
Net Pond Volume				1,389,077
Additional Storage Volume				5,867,533
Total net waste storage				7,256,610

WASTE APPLICATION SCHEDULE

Month	Waste Prod. (gal)	Storage Volume (gal)	Application			
			Vol Spread (gal)	Field number	Area (ac.)	Depth (in./ac.)
Carryover		0				
October	1,695,625	348,352	1,347,273	Grass	240	0.21
November	1,960,564	2,308,916	0		0	0.00
December	2,106,642	4,415,558	0		0	0.00
January	1,951,685	6,367,243	0		0	0.00
February	1,686,370	8,053,613	0		0	0.00
March	1,559,581	6,413,194	3,200,000	Grass	435	0.27
April	1,408,399	5,961,612	1,859,981	Corn	129	0.53
May	1,313,217	4,074,829	3,200,000	Grass	435	0.27
June	1,175,931	4,050,760	1,200,000	Grass	200	0.22
July	1,043,874	3,894,634	1,200,000	Grass	200	0.22
August	1,166,395	4,161,030	900,000	Grass	200	0.17
September	1,372,947	4,515,106	1,018,871	Grass	200	0.19
TOTAL VOLUMES	18,441,231		13,926,125			

Nutrient Management Field Records
2012

Coldstream Farms

Farm Notes 2012

Farm	Coldstream Farms				
Address					
Phone					Acres
Fields	25	Ponds	4	Corn	337
Cows	900	Acres	672	Grass	335

360-815-4851
PO Box 850
Lynden, 98264

To Do

Manure Tests:

		lbs./1000 gallons (or ton for solids) in manure						Test	Manure
Test #	*Solids %*	*NH4-N*	*Total N*	*Org-N*	*P*	*K*	*Date*	Type	Type
A		4.9	10.8	5.9	2.4	11.8	10-Mar	Lab	Pond 1
B		16.25	35.82	19.57	7.96	39.13	24-Apr	Agros	Pit
C		9.75	21.49	11.74	4.78	23.48	24-Apr	Agros	Pond 1
D		4.38	9.65	5.27	2.15	10.55	24-Apr	Agros	Dry cow
E		8.63	19.02	10.39	4.23	20.78	30-Jun	Agros	Pond 1
F		2.13	4.69	2.56	1.04	5.13	30-Jun	Agros	Pond 2
G		9.25	20.39	11.14	4.53	22.28	16-Oct	Agros	Pond 1
Z	31.27	0.61	9.8	9.19	2.2	5.2	30-May	Lab	Solids

Year: **2012**

Acres: 100

Coldstream Farms

Field # Off Farm

Liquid Manure

Date	Farmer	Gallons	Method	Test #	Source	Org N* (Total lbs/acre)	Avail. N* (Total lbs/acre)	P (Total lbs/acre)	K (Total lbs/acre)
12-Apr	Alpine	211,700	Tanker	A	Pond 1	1,249	1,037	508	2,498
29-Jun	Larry	36,500	Tanker	C	Pond 1	429	356	174	857
17-May	Lawson	124,100	Tanker	C	Pond 1	1,457	1,210	593	2,914
26-May	Kalsbeek	226,300	Tanker	B	Pit	4,428	3,677	1,801	8,856
6-Jun	Alpine	138,700	Tanker	C	Pond 1	1,628	1,352	662	3,257
13-Jul	Roy	58,400	Tanker	A	Pit	345	286	140	689
29-Aug	Larry	29,200	Tanker	A	Pit	172	143	70	345
	Total	824,900			Total =	9,707	8,062	3,949	19,415

Dry Manure

Date	Recipient	Tons	Method	Test #	Source	Org N* (Total lbs nutrients removed)	Avail. N* (Total lbs nutrients removed)	P (Total lbs nutrients removed)	K (Total lbs nutrients removed)
April/May	Various	200.0	Truck	Z	Composter	1,838	122	440	1,040
Year	Kalsbeek	576.0	Truck	Z	Composter	5,293	351	1,267	2,995
				Z		0	0	0	0
				Z		0	0	0	0
					Total =	7,131	473	1,707	4,035

Year: **2012**

Coldstream Farms

Acres: 37.6 | Field # 1 | Crop: 2012 2011 Corn:Corn

Soil: Puyallup Sandy Loam | Bulk density: 1.24 | Date Planted: | Variety: 2998 RR

Soil Test

Date	OM %	pH	P ppm Bray	K ppm	B ppm	Zn ppm	Mg /100g	Ca /100g
10/30/2010	4.3	5.8 (6.3)	62	229	0.78	2.7	4.5	5.3

Report Card Test	NO3-N	
Date	ppm	lbs/acre
3-Nov	64.7	218

Manure & Commercial Fertilizer Nutrient Application

Date	Rate G or T/acre	Method	Test #	Source	Total lbs/acre Org N	Avail. N	P	K
16-Mar	19,575	Big gun	E	Pond 1	203	118	83	407
2-Jul	22,275	Big gun	F	Pond 2	57	24	23	114
16-Jul	22,275	Big gun	F	Pond 2	57	21	23	114
	None	Planter			0	0	0	0
July	None	Side-dress			0	0	0	0
				Total per acre =	318	163	129	635

Crop Nutrient Uptake

Crop	Harvest Date	Fresh T/ac	% Dry M	Dry T/ac	% on dry basis C. Prot	P	K	Total lbs/acre N	P	K
Corn	Fall	24.00	25%	6.00	9	0.2	3.2	173	24	384
				0.00				0	0	0
			Total	6.00			Total	173	24	384

Nutrient Balance

		N	P	K
+	Manure/Fert Available N	163	129	635
+	Mineralization Estimate	100		
-	Crop Uptake	173	24	384
=	losses\residual	91	105	251

Year: **2012**

Coldstream Farms

Acres: 10

Field # 1S&4W

2012 2011

Crop: Grass:Grass

Soil: Puget | Silt Loam

Bulk density: 1.00

Date Planted:

Variety: 2998 RR

Soil Test

Date	OM %	pH	P ppm Bray	K ppm	B ppm	Zn ppm	Mg /100g	Ca /100g
10/30/2010	5.5	5.7 (6.4)	45	247	0.7	4.0	5.0	6.7

Report Card Test	NO3-N	
Date	ppm	lbs/acre
3-Nov	36.3	99

Manure & Commercial Fertilizer Nutrient Application

	Rate	Method			--------Total lbs/acre --------			
Date	G or T/acre		Test #	Source	Org N	Avail. N	P	K
25-May	8,030	Tanker	A	Pond 1	47	30	19	95
13-Jul	7,300	Big gun	E	Pond 1	76	39	31	152
25-Sep	7,300	Big gun	E	Pond 1	76	42	31	152
		Top-dress			0	0	0	0
			Total per acre =		199	112	81	398

Crop Nutrient Uptake

	Harvest	Fresh			--- % on dry basis ---			----Total lbs/acre ----		
Crop	Date	T/ac	% Dry M	Dry T/ac	C. Prot	P	K	N	P	K
Grass	Season	20.00	25%	5.00	18	0.3	1.8	288	30	180
				0.00				0	0	0
			Total	5.00			Total	288	30	180

Nutrient Balance

		N	P	K
+	Manure/Fert Available N	112	81	398
+	Mineralization Estimate	120		
-	Crop Uptake	288	30	180
=	losses\residual	(56)	51	218

Year: **2012**

Coldstream Farms

Acres: 31.9 | Field # 2 | 2012 2011 Crop: Grass:Grass

Soil: Puget Silt Loam | Bulk density: 0.80 | Date Planted: | Variety: 2998 RR

Soil Test

Date	OM %	pH	P ppm Bray	K ppm	B ppm	Zn ppm	Mg /100g	Ca /100g
10/30/2010	12.4	5.8 (5.9)	43	360	0.41	4.8	2.6	5.7

Report Card Test

Date	NO3-N ppm	NO3-N lbs/acre
3-Nov	40.6	88

Manure & Commercial Fertilizer Nutrient Application

Date	Rate G or T/acre	Method	Test #	Source	Total lbs/acre Org N	Avail. N	P	K
16-Mar	17,503	Big gun	A	Pond 1	103	66	42	207
17-May	15,912	Big gun	C	Pond 1	187	103	76	374
25-Jun	17,503	Big gun	E	Pond 1	182	94	74	364
22-Sep	19,254	Big gun	E	Pond 1	200	110	81	400
		Top-dress			0	0	0	0
			Total per acre =		672	374	273	1,344

Crop Nutrient Uptake

Crop	Harvest Date	Fresh T/ac	% Dry M	Dry T/ac	% on dry basis C. Prot	P	K	Total lbs/acre N	P	K
Grass	Season	24.00	25%	6.00	18	0.3	1.8	346	36	216
				0.00				0	0	0
			Total	6.00			Total	346	36	216

Nutrient Balance

		N	P	K
+	Manure/Fert Available N	374	273	1,344
+	Mineralization Estimate	120		
-	Crop Uptake	346	36	216
=	losses\residual	148	237	1,128

Year: **2012**

Coldstream Farms

Acres: 20.9

Field # N of 3

2012 2011

Crop: Grass:Grass

Soil: Skagit | Silt Loam

Bulk density: 0.91

Date Planted:

Variety: 2998 RR

Soil Test

Date	OM %	pH	P ppm Bray	K ppm	B ppm	Zn ppm	Mg /100g	Ca /100g
10/30/2010	8.2	5.4 (6.7)	62	376	0.29	3.8	3.3	6.3

Report Card Test

Date	NO3-N ppm	NO3-N lbs/acre
3-Nov	26.5	66

Manure & Commercial Fertilizer Nutrient Application

Date	Rate G or T/acre	Method	Test #	Source	Total lbs/acre Org N	Avail. N	P	K
16-Mar	13,358	Big gun	A	Pond 1	79	46	32	158
17-May	12,144	Big gun	C	Pond 1	143	65	58	285
25-Jun	13,358	Big gun	E	Pond 1	139	58	56	278
22-Sep	14,694	Big gun	E	Pond 1	153	70	62	305
	None	Side-dress			0	0	0	0
				Total per acre =	513	238	209	1,026

Crop Nutrient Uptake

Crop	Harvest Date	Fresh T/ac	% Dry M	Dry T/ac	% on dry basis C. Prot	P	K	Total lbs/acre N	P	K
Grass	Season	20.00	25%	5.00	18	0.3	1.8	288	30	180
				0.00				0	0	0
			Total	5.00			Total	288	30	180

Nutrient Balance

		N	P	K
+	Manure/Fert Available N	238	209	1,026
+	Mineralization Estimate	120		
-	Crop Uptake	288	30	180
=	losses\residual	70	179	846

Year: **2012**

Coldstream Farms

Acres: 26.5

Field # 3A

2012 2011
Crop: Corn:Corn

Soil: Skagit | Silt Loam
Bulk density: 0.99

Date Planted: 24-May

Variety: 2998 RR

Soil Test

Date	OM %	pH	P ppm Bray	K ppm	B ppm	Zn ppm	Mg /100g	Ca /100g
10/30/2010	5.7	5.8 (6.3)	78	375	0.29	3.8	3.3	6.3

PSNT Test Date	NO3-N 0-1' PPM

Report Card Test Date	NO3-N ppm	NO3-N lbs/acre
3-Nov	92.3	249

Manure & Commercial Fertilizer Nutrient Application

Date	Rate G or T/acre	Method	Test #	Source	Total lbs/acre Org N	Avail. N	P	K
16-Mar	20,112	Big gun	A	Pond 1	119	69	48	237
15-Jul	22,986	Big gun	F	Pond 2	59	22	24	118
16-Jul	22,986	Big gun	F	Pond 2	59	22	24	118
21-Mar	9.3	Spreader	Z	Solids	85	5	20	48
	None	Planter			0	0	0	0
	None	Side-dress			0	0	0	0
				Total per acre =	322	118	117	521

Crop Nutrient Uptake

Crop	Harvest Date	Fresh T/ac	% Dry M	Dry T/ac	% on dry basis C. Prot	P	K	Total lbs/acre N	P	K
Corn	Oct	24.00	25%	6.00	9	0.3	1.8	173	36	216
				0.00				0	0	0
			Total	6.00			Total	173	36	216

Nutrient Balance

		N	P	K
+	Manure/Fert Available N	118	117	521
+	Mineralization Estimate	100		
-	Crop Uptake	173	36	216
=	losses\residual	45	81	305

Year: **2012**

Coldstream Farms

Acres: 36.5 Field # 4

2012 2011
Crop: Corn:Corn

Soil: Puyallup Sandy Loam
Bulk density: 1.17

Date Planted: 2007

Variety: 2998 RR

Soil Test

Date	OM %	pH (buffer)	P ppm Bray	K ppm	B ppm	Zn ppm	Mg /100g	Ca /100g
10/30/2010	5.5	5.7 (6.4)	45	247	0.7	4.0	5.0	6.7

Report Card Test	NO3-N	
Date	ppm	lbs/acre
3-Nov	92.7	295

Manure & Commercial Fertilizer Nutrient Application

	Rate	Method			--------Total lbs/acre ---------			
Date	G or T/acre		Test #	Source	Org N	Avail. N	P	K
16-Mar	15,298	Big gun	A	Pond 1	90	52	37	181
17-Mar	27,154	Big gun	F	Pond 2	70	40	28	139
18-Mar	27,154	Big gun	F	Pond 2	70	40	28	139
23-Mar	6.7	Spreader	Z	Solids	62	3	15	35
	None	Planter			0	0	0	0
	None	Side-dress			0	0	0	0
		Total per acre =			291	137	108	494

Crop Nutrient Uptake

	Harvest	Fresh			--- % on dry basis ---			----Total lbs/acre ----		
Crop	Date	T/ac	% Dry M	Dry T/ac	C. Prot	P	K	N	P	K
Corn	Oct	24.00	25%	6.00	9	0.3	1.8	173	36	216
				0.00				0	0	0
			Total	6.00			Total	173	36	216

Nutrient Balance

		N	P	K
+	Manure/Fert Available N	137	108	494
+	Mineralization Estimate	100		
-	Crop Uptake	173	36	216
=	losses\residual	64	72	278

Year: **2012**

Coldstream Farms

Acres: 6.4 Field # 5

2012 2011
Crop: Grass:Grass

Soil: Puyallup Sandy Loam
Bulk density: 1.24

Date Planted: Spring 2010

Variety:

Soil Test

Date	OM %	pH (buffer)	P Bray ppm	K ppm	B ppm	Zn ppm	Mg /100g	Ca /100g
10/30/2010	4.3	6.2 (6.8)	38	76	0.5	1.1	4.2	3.5

PSNT Test Date	NO3-N 0-1' PPM
2-Jul	34.8

Report Card Test Date	NO3-N ppm	NO3-N lbs/acre
3-Nov	31.7	107

Manure & Commercial Fertilizer Nutrient Application

Date	Rate G or T/acre	Method	Test #	Source	Total lbs/acre Org N	Avail. N	P	K
9-Jun	9,125	Tanker	G	Pond 1	102	65	41	203
20-Jul	9,125	Tanker	G	Pond 1	102	61	41	203
10-Oct	10,266	Tanker	G	Pond 1	114	74	47	229
		Top-dress			0	0	0	0
			Total per acre =		318	200	129	635

Crop Nutrient Uptake

Crop	Harvest Date	Fresh T/ac	% Dry M	Dry T/ac	% on dry basis C. Prot	P	K	Total lbs/acre N	P	K
Corn	Oct	20.00	25%	5.00	16	0.3	1.8	256	30	180
				0.00				0	0	0
			Total	5.00			Total	256	30	180

Nutrient Balance

		N	P	K
+	Manure/Fert Available N	200	129	635
+	Mineralization Estimate	120		
-	Crop Uptake	256	30	180
=	losses\residual	64	99	455

Year: **2012**

Coldstream Farms

Acres: 13.9 Field # 6

2012 2011
Crop: Grass:Grass

Soil: Briscot Sandy Loam
Bulk density: 1.29

Date Planted:

Variety:

Soil Test

Date	OM %	pH (buffer)	P ppm Bray	K ppm	B ppm	Zn ppm	Mg /100g	Ca /100g
10/30/2010	3.4	6.0 (6.8)	23	53	0.6	1.5	4.1	4.1

Report Card Test

	NO3-N	
Date	ppm	lbs/acre
3-Nov	31.7	105

Manure & Commercial Fertilizer Nutrient Application

	Rate	Method			--------Total lbs/acre ---------			
Date	G or T/acre		Test #	Source	Org N	Avail. N	P	K
16-Mar	6,827	Tanker	B	Pit	134	94	54	267
17-Mar	8,928	Tanker	G	Pond 1	99	70	40	199
18-Mar	8,928	Big gun	G	Pond 1	99	58	40	199
20-Jul	125lbs	Top-dress	Urea	N46	0	58	0	0
		Total per acre =			332	280	135	665

Crop Nutrient Uptake

	Harvest	Fresh				--- % on dry basis ---			----Total lbs/acre ----		
Crop	Date	T/ac	% Dry M	Dry T/ac	C. Prot	P	K		N	P	K
Grass	Season	20.00	25%	5.00	17	0.4	3.2		272	40	320
				0.00					0	0	0
			Total	5.00				Total	272	40	320

Nutrient Balance

		N	P	K
+	Manure/Fert Available N	280	135	665
+	Mineralization Estimate	120		
-	Crop Uptake	272	40	320
=	losses\residual	128	95	345

Year: **2012**

Coldstream Farms

Acres: 17.2 Field # 7

2012 2011
Crop: Grass:Grass

Soil: Briscot Sandy Loam
Bulk density: 1.22

Date Planted:

Variety:

Soil Test

Date	OM %	pH (buffer)	P Bray ppm	K ppm	B ppm	Zn ppm	Mg /100g	Ca /100g
10/30/2010	4.6	5.5 (6.3)	45	212	0.9	3.7	4.5	3.8

Report Card Test

Date	NO3-N ppm	NO3-N lbs/acre
14-Oct	24.6	81

Manure & Commercial Fertilizer Nutrient Application

Date	Rate G or T/acre	Method	Test #	Source	Total lbs/acre Org N	Avail. N	P	K
210 days	80 Cows	Pasturing	Est	Drycow	109	33	27	164
16-Mar	17,707	Big gun	D	Pond 4	93	54	38	187
17-Oct	23,609	Big gun	D	Pond 4	125	62	51	249
20-Jul	125lbs	Top-dress	Urea	N46	0	58	0	0
		Total per acre =			327	207	116	600

Crop Nutrient Uptake

Crop	Harvest Date	Fresh T/ac	% Dry M	Dry T/ac	% on dry basis C. Prot	P	K	Total lbs/acre N	P	K
Grass	Season	16.00	30%	4.80	17	0.4	3.2	261	38	307
				0.00				0	0	0
			Total	4.80			Total	261	38	307

Nutrient Balance

		N	P	K
+	Manure/Fert Available N	207	116	600
+	Mineralization Estimate	120		
-	Crop Uptake	261	38	307
=	losses\residual	66	78	293

Year: **2012**

Coldstream Farms

Acres: 17

Field # 8W

2012 2011

Crop: Grass:Grass

Soil: Briscot | Sandy Loam

Bulk density: 1.24

Date Planted:

Variety:

Soil Test

Date	OM %	pH	P Bray ppm	K ppm	B ppm	Zn ppm	Mg /100g	Ca /100g
10/30/2010	4.3	5.8 (6.5)	14	134	0.8	2.2	5.6	3.6

Report Card Test	NO3-N	
Date	ppm	lbs/acre
14-Oct	18.3	60

Manure & Commercial Fertilizer Nutrient Application

Date	Rate G or T/acre	Method	Test #	Source	Total lbs/acre Org N	Avail. N	P	K
150 days	80 Cows	Pasturing	Est	Drycow	20	6	5	30
16-Mar	23,887	Big gun	D	Drycow	126	73	51	252
17-Sep	14,929	Big gun	D	Drycow	79	36	32	157
20-Jul	125lbs	Top-dress	Urea	N46	0	58	0	0
		Total per acre =			263	195	104	516

Crop Nutrient Uptake

Crop	Harvest Date	Fresh T/ac	% Dry M	Dry T/ac	% on dry basis C. Prot	P	K	Total lbs/acre N	P	K
Grass	Season	16.00	30%	4.80	17	0.4	3.2	261	38	307
				0.00				0	0	0
			Total	4.80			Total	261	38	307

Nutrient Balance

		N	P	K
+	Manure/Fert Available N	195	104	516
+	Mineralization Estimate	100		
-	Crop Uptake	261	38	307
=	losses\residual	34	65	208

Year: **2012**

Coldstream Farms

Acres: 18.9

Field # 8E

2012 2011

Crop: Grass:Grass

Soil: Briscot Sandy Loam

Bulk density: 1.13

Date Planted:

Variety:

Soil Test

Date	OM %	pH (buffer)	P Bray ppm	K ppm	B ppm	Zn ppm	Mg /100g	Ca /100g
10/30/2010	6.3	5.7 (6.5)	27	131	0.9	4.0	6.3	4.4

Report Card Test

Date	NO3-N ppm	NO3-N lbs/acre
14-Oct	32.3	99

Manure & Commercial Fertilizer Nutrient Application

Date	Rate G or T/acre	Method	Test #	Source	Total lbs/acre Org N	Avail. N	P	K
150 days	80 Cows	Pasturing	Est	Drycow	18	5	4	27
16-Mar	21,486	Big gun	D	Drycow	113	66	46	227
17-Jul	13,429	Big gun	D	Drycow	71	26	29	142
20-Jul	125lbs	Top-dress	Urea	N46	0	58	0	0
				Total per acre =	236	175	93	464

Crop Nutrient Uptake

Crop	Harvest Date	Fresh T/ac	% Dry M	Dry T/ac	% on dry basis C. Prot	P	K	Total lbs/acre N	P	K
Grass	Season	16.00	30%	4.80	17	0.4	3.2	261	38	307
				0.00				0	0	0
			Total	4.80			Total	261	38	307

Nutrient Balance

		N	P	K
+	Manure/Fert Available N	175	93	464
+	Mineralization Estimate	120		
-	Crop Uptake	261	38	307
=	losses\residual	34	55	157

Year: **2012**

Coldstream Farms

Acres: 15.7 Field # 9

2012 2011
Crop: Grass:Grass

Soil: Briscot Sandy Loam
Bulk density: 1.25

Date Planted:

Variety:

Soil Test

Date	OM %	pH (buffer)	P Bray ppm	K ppm	B ppm	Zn ppm	Mg /100g	Ca /100g
10/30/2010	4.0	5.3 (5.9)	24	281	0.9	4.0	4.7	3.5

Report Card Test

	NO3-N	
Date	ppm	lbs/acre
14-Oct	12.1	40

Manure & Commercial Fertilizer Nutrient Application

	Rate	Method		--------Total lbs/acre ---------			
Date	G or T/acre		Test #	Source	Org N	Avail. N	P	K
240 days	80 Cows	Pasturing	Est	Drycow	86	26	21	128
16-Mar	16,166	Big gun	D	Drycow	85	50	35	171
	None	Top-dress			0	0	0	0
			Total per acre =		171	75	56	299

Crop Nutrient Uptake

	Harvest	Fresh			--- % on dry basis ---			----Total lbs/acre ----		
Crop	Date	T/ac	% Dry M	Dry T/ac	C. Prot	P	K	N	P	K
Grass	Season	15.00	30%	4.50	17	0.4	3.2	245	36	288
				0.00				0	0	0
			Total	4.50			Total	245	36	288

Nutrient Balance

		N	P	K
+	Manure/Fert Available N	75	56	299
+	Mineralization Estimate	120		
-	Crop Uptake	245	36	288
=	losses\residual	(50)	20	11

Year: **2012**

Coldstream Farms

Acres: 9.7 Field # 10

2012 2011
Crop: Grass:Grass

Soil: Oridia | Silt Loam
Bulk density: 1.04

Date Planted:

Variety:

Soil Test

Date	OM %	pH (buffer)	P Bray ppm	K ppm	B ppm	Zn ppm	Mg /100g	Ca /100g
10/30/2010	4.4	5.6 (6.4)	15	72	0.7	1.9	5.1	3.0

Report Card Test	NO3-N	
Date	ppm	lbs/acre
14-Oct	13.2	37

Manure & Commercial Fertilizer Nutrient Application

Date	Rate G or T/acre	Method	Test #	Source	Total lbs/acre Org N	Avail. N	P	K
150 days	80 Cows	Pasturing	Est	Drycow	35	10	9	52
16-Mar	20,932	Big gun	D	Drycow	110	64	45	221
17-Sep	26,165	Big gun	D	Drycow	138	63	56	276
20-Jul	125lbs	Top-dress	Urea	N46	0	58	0	0
		Total per acre =			283	195	110	549

Crop Nutrient Uptake

Crop	Harvest Date	Fresh T/ac	% Dry M	Dry T/ac	% on dry basis C. Prot	P	K	Total lbs/acre N	P	K
Grass	Season	18.00	30%	5.40	17	0.4	3.2	294	43	346
				0.00				0	0	0
			Total	5.40			Total	294	43	346

Nutrient Balance

		N	P	K
+	Manure/Fert Available N	195	110	549
+	Mineralization Estimate	120		
-	Crop Uptake	294	43	346
=	losses\residual	21	66	203

Year: **2012**

Coldstream Farms

Acres:	32.5	Field #	11	2012 2011 Crop:	Corn:Corn
Soil:	Oridia / Silt Loam	Bulk density:	0.96	Date Planted:		Variety:	2998 RR

Soil Test

Date	OM %	pH	P ppm	K ppm	B ppm	Zn ppm	Mg /100g	Ca /100g
10/30/2010	6.5	5.5 (6.2)	20	461	0.26	4.2	4.1	7.2

PSNT Test Date	NO3-N 0-1' PPM
22-Jul	14.2

Report Card Test Date	NO3-N ppm	NO3-N lbs/acre
14-Oct	66.3	174

Manure & Commercial Fertilizer Nutrient Application

Date	Rate G or T/acre	Method	Test #	Source	Total lbs/acre Org N	Avail. N	P	K
1-May	4,000	Big gun	C	Pond 1	47	23	19	94
	None	Planter			0	0	0	0
July	200lbs	Side-dress	N32		0	64	0	0
				Total per acre =	64	88	23	104

Crop Nutrient Uptake

Crop	Harvest Date	Fresh T/ac	% Dry M	Dry T/ac	% on dry basis C. Prot	P	K	Total lbs/acre N	P	K
Corn	Oct	22.00	25%	5.50	9	0.3	1.8	158	33	198
				0.00				0	0	0
			Total	5.50			Total	158	33	198

Nutrient Balance

		N	P	K
+	Manure/Fert Available N	88	23	104
+	Mineralization Estimate	100		
-	Crop Uptake	158	33	198
=	losses\residual	30	(10)	(94)

Year: **2012**

Coldstream Farms

Acres: 38.1 | Field # 14 Lamonte | Crop: 2012 2011 Grass:Grass

Soil: Larush Silt Loam | Bulk density: 1.09 | Date Planted: | Variety:

Soil Test

Date	OM %	pH	P Bray ppm	K ppm	B ppm	Zn ppm	Mg /100g	Ca /100g
10/30/2010	3.2	5.7 (6.7)	13	74	0.47	1.2	3.9	3.7

Report Card Test	NO3-N	
Date	ppm	lbs/acre
14-Oct	6	18

Manure & Commercial Fertilizer Nutrient Application

Date	Rate G or T/acre	Method	Test #	Source	Total lbs/acre Org N	Avail. N	P	K
1-May	4,000	Tanker	C	Pond 1	47	31	19	94
22-Aug	5,173	Tanker	C	Pond 1	61	38	25	121
20-Jul	125lbs	Top-dress	Urea	46N	0	58	0	0
			Total per acre =		108	127	44	215

Crop Nutrient Uptake

Crop	Harvest Date	Fresh T/ac	% Dry M	Dry T/ac	% on dry basis C. Prot	P	K	Total lbs/acre N	P	K
Grass	Season	15.00	30%	4.50	17	0.4	3.2	245	36	288
				0.00				0	0	0
			Total	4.50			Total	245	36	288

Nutrient Balance

		N	P	K
+	Manure/Fert Available N	127	44	215
+	Mineralization Estimate	120		
-	Crop Uptake	245	36	288
=	losses\residual	2	8	(73)

Year: **2012**

Coldstream Farms

Acres: 17.1 Field # 15 Little

2012 2011
Crop: Grass:Grass

Soil: Briscot Sandy Loam
Bulk density: 1.10

Date Planted: 28-May

Variety:

Soil Test

Date	OM %	pH	P ppm	K ppm	B ppm	Zn ppm	Mg /100g	Ca /100g
10/30/2010	6.9	5.5 (6.0)	19	73	0.85	1.5	4.1	6.2

Report Card Test	NO3-N	
Date	ppm	lbs/acre
30-Oct	20	60

Manure & Commercial Fertilizer Nutrient Application

Date	Rate G or T/acre	Method	Test #	Source	Total lbs/acre Org N	Avail. N	P	K
16-Mar	4,269	Tanker	B	Pit	84	59	34	167
July	125lbs	Top-dress	N46		0	58	0	0
		Total per acre =			84	117	34	167

Crop Nutrient Uptake

Crop	Harvest Date	Fresh T/ac	% Dry M	Dry T/ac	% on dry basis C. Prot	P	K	Total lbs/acre N	P	K
Grass	Season	16.00	30%	4.80	17	0.4	3.2	261	38	307
				0.00				0	0	0
			Total	4.80			Total	261	38	307

Nutrient Balance

		N	P	K
+	Manure/Fert Available N	117	34	167
+	Mineralization Estimate	120		
-	Crop Uptake	261	38	307
=	losses\residual	(24)	(4)	(140)

Year: **2012**

Coldstream Farms

Acres: 10.4 | Field # 16 Strand S | 2012 2011 Crop: Corn:Corn

Soil: Puyallup Sandy Loam | Bulk density: 1.29 | Date Planted: 28-May | Variety:

Soil Test

Date	OM %	pH	P Bray ppm	K ppm	B ppm	Zn ppm	Mg /100g	Ca /100g
10/30/2010	3.4	5.5 (6.5)	27	124	0.78	3.0	5.0	5.0

PSNT Test Date	NO3-N 0-1' PPM
22-Jul	15.4

Report Card Test Date	NO3-N ppm	NO3-N lbs/acre
21-Oct	38.7	132

Manure & Commercial Fertilizer Nutrient Application

Date	Rate G or T/acre	Method	Test #	Source	Org N	Avail. N	P	K
					Total lbs/acre			
16-Mar	8,423	Tanker	C	Pond 1	99	70	40	198
13-Jun	250lbs	Planter	19:19:19		0	48	21	40
July	160lbs	Side-dress	N32		0	51	0	0
			Total per acre =		152	171	74	267

Crop Nutrient Uptake

Crop	Harvest Date	Fresh T/ac	% Dry M	Dry T/ac	% on dry basis C. Prot	P	K	Total lbs/acre N	P	K
Corn	Oct	24.00	25%	6.00	10	0.3	1.8	192	36	216
				0.00				0	0	0
			Total	6.00			Total	192	36	216

Nutrient Balance

		N	P	K
+	Manure/Fert Available N	171	74	267
+	Mineralization Estimate	100		
-	Crop Uptake	192	36	216
=	losses\residual	79	38	51

Year: **2012**

Coldstream Farms

Acres: 30.9 | Field # 17 Strand N | 2012 2011 Crop: Corn:Corn

Soil: Puyallup Sandy Loam | Bulk density: 1.24 | Date Planted: 28-May | Variety: 2998 RR

Soil Test

Date	OM %	pH	P ppm	K ppm	B ppm	Zn ppm	Mg /100g	Ca /100g
10/30/2010	4.2	5.8 (6.5)	30	209	0.86	2.5	5.3	4.9

PSNT Test

Date	NO3-N 0-1' PPM
22-Jul	33.7

Report Card Test

Date	NO3-N ppm	NO3-N lbs/acre
21-Oct	15	51

Manure & Commercial Fertilizer Nutrient Application

Date	Rate G or T/acre	Method	Test #	Source	Total lbs/acre Org N	Avail. N	P	K
6-May	14,175	Tanker	C	Pond 1	166	111	68	333
23-Mar	9.7	Spreader	Z	Solids	89	5	21	50
13-Jun	250lbs	Planter	19:19:19		0	48	21	40
	None	Side-dress			0	0	0	0
			Total per acre =		256	163	110	423

Crop Nutrient Uptake

Crop	Harvest Date	Fresh T/ac	% Dry M	Dry T/ac	% on dry basis C. Prot	P	K	Total lbs/acre N	P	K
Corn	Oct	24.00	25%	6.00	9	0.3	1.8	173	36	216
				0.00				0	0	0
			Total	6.00			Total	173	36	216

Nutrient Balance

		N	P	K
+	Manure/Fert Available N	163	110	423
+	Mineralization Estimate	100		
-	Crop Uptake	173	36	216
=	losses\residual	90	74	207

Year: **2012**

Coldstream Farms

Acres: 74.9 **Field #** 18 Brantner

2012 2011
Crop: Corn:Grass

Soil: Puyallup Sandy Loam
Bulk density: 1.29

Date Planted: 6/13/2011

Variety: 2998 RR

Soil Test

Date	OM %	pH	P Bray ppm	K ppm	B ppm	Zn ppm	Mg /100g	Ca /100g
10/30/2010	3.4	5.9 (6.6)	12	51	0.23	1.9	6.6	5.2

Report Card Test	NO3-N	
Date	ppm	lbs/acre
21-Oct	39.5	134

Manure & Commercial Fertilizer Nutrient Application

	Rate	Method			--------Total lbs/acre ---------			
Date	G or T/acre		Test #	Source	Org N	Avail. N	P	K
16-Mar	7,455	Tanker	C	Pond 1	88	62	36	175
17-Mar	4,678	Tanker	E	Pond 2	49	34	20	97
13-Jun	250lbs	Planter	19:19:19		0	48	21	40
29-Mar		Side-dress			0	0	0	0
			Total per acre =		136	144	76	312

Crop Nutrient Uptake

	Harvest	Fresh			--- % on dry basis ---			----Total lbs/acre ----		
Crop	Date	T/ac	% Dry M	Dry T/ac	C. Prot	P	K	N	P	K
Corn	Oct	24.00	25%	6.00	9	0.3	1.8	173	36	216
				0.00				0	0	0
			Total	6.00			Total	173	36	216

Nutrient Balance

		N	P	K
+	Manure/Fert Available N	144	76	312
+	Mineralization Estimate	200		
-	Crop Uptake	173	36	216
=	losses\residual	171	40	96

Year: **2012**

Coldstream Farms

Acres: 29.7 | Field # 19 Jacoby | Crop: 2012 2011 Corn:Corn

Soil: Puget | Silt Loam | Bulk density: 1.00 | Date Planted: 23-May | Variety: 2998 RR

Soil Test

Date	OM %	pH	P ppm	K ppm	B ppm	Zn ppm	Mg /100g	Ca /100g
10/30/2010	5.5	5.6 (6.3)	48	203	0.35	3.1	4.2	6.4

PSNT Test Date	NO3-N 0-1' PPM

Report Card Test Date	NO3-N ppm	NO3-N lbs/acre
3-Nov	67.1	183

Manure & Commercial Fertilizer Nutrient Application

Date	Rate G or T/acre	Method	Test #	Source	Total lbs/acre Org N	Avail. N	P	K
16-Mar	18,800	Big gun	A	Pond 1	111	64	45	222
12-Jul	27,154	Big gun	F	Pond 2	70	29	28	139
28-Jul	27,154	Big gun	F	Pond 2	70	26	28	139
23-Mar	8.3	Spreader	Z	Solids	76	4	18	43
	None	Planter			0	0	0	0
	None	Side-dress			0	0	0	0
				Total per acre =	326	124	120	543

Crop Nutrient Uptake

Crop	Harvest Date	Fresh T/ac	% Dry M	Dry T/ac	% on dry basis C. Prot	P	K	Total lbs/acre N	P	K
Corn	Oct	24.00	25%	6.00	10	0.3	1.8	192	36	216
				0.00				0	0	0
			Total	6.00			Total	192	36	216

Nutrient Balance

		N	P	K
+	Manure/Fert Available N	124	120	543
+	Mineralization Estimate	100		
-	Crop Uptake	192	36	216
=	losses\residual	32	84	327

Year: **2012**

Coldstream Farms

Acres: 10 | Field # 19N | Jacoby N | 2012 2011 Crop: Grass:Grass

Soil: Larush | Silt Loam | Bulk density: 1.11 | Date Planted: | Variety: 2998 RR

Soil Test

Date	OM %	pH	P ppm	K ppm	B ppm	Zn ppm	Mg /100g	Ca /100g
10/30/2010	2.8	6.0 (6.8)	35	116	0.33	3.7	4.0	6.3

Report Card Test	NO3-N	
Date	ppm	lbs/acre
3-Nov	10.3	31

Manure & Commercial Fertilizer Nutrient Application

	Rate	Method		--------Total lbs/acre ---------				
Date	G or T/acre		Test #	Source	Org N	Avail. N	P	K
16-Mar	20,304	Big Gun	C	Pond 1	238	139	97	477
12-Aug	22,334	Big gun	E	Pond 2	232	87	94	464
18-Mar	22,334	Big gun	F	Pond 2	57	33	23	115
	None	Top-dress			0	0	0	0
			Total per acre =		528	259	215	1,055

Crop Nutrient Uptake

	Harvest	Fresh			--- % on dry basis ---			----Total lbs/acre ----		
Crop	Date	T/ac	% Dry M	Dry T/ac	C. Prot	P	K	N	P	K
Grass	Season	20.00	30%	6.00	17	0.4	3.2	326	48	384
				0.00				0	0	0
			Total	6.00			Total	326	48	384

Nutrient Balance

		N	P	K
+	Manure/Fert Available N	259	215	1,055
+	Mineralization Estimate	120		
-	Crop Uptake	326	48	384
=	losses\residual	52	167	671

Year: **2012**

Coldstream Farms

Acres: 13.8 | Field # 20 East of Gravel Pit | 2012 2011 Crop: Corn:Corn

Soil: Puyallup Sandy Loam | Bulk density: 1.17 | Date Planted: 28-May | Variety: 2998 RR

Soil Test

Date	OM %	pH (buffer)	P Bray ppm	K ppm	B ppm	Zn ppm	Mg /100g	Ca /100g
10/30/2010	5.5	5.7 (6.4)	45	247	1.0	2.9	4.2	5.3

PSNT Test

Date	NO3-N 0-1' PPM
2-Jul	42

Report Card Test

Date	NO3-N ppm	NO3-N lbs/acre
3-Nov	64.8	206

Manure & Commercial Fertilizer Nutrient Application

Date	Rate G or T/acre	Method	Test #	Source	Total lbs/acre Org N	Avail. N	P	K
16-Mar	22,070	Big gun	A	Pond 1	130	76	53	260
12-Jul	27,154	Big gun	F	Pond 2	70	29	28	139
28-Jul	27,154	Big gun	F	Pond 2	70	26	28	139
23-Mar	3.6	Spreader	Z	Solids	33	2	8	19
	None	Planter			0	0	0	0
	None	Side-dress			0	0	0	0
				Total per acre =	303	133	118	558

Crop Nutrient Uptake

Crop	Harvest Date	Fresh T/ac	% Dry M	Dry T/ac	% on dry basis C. Prot	P	K	Total lbs/acre N	P	K
Corn	Oct	24.00	25%	6.00	9	0.3	1.8	173	36	216
				0.00				0	0	0
			Total	6.00			Total	173	36	216

Nutrient Balance

		N	P	K
+	Manure/Fert Available N	133	118	558
+	Mineralization Estimate	100		
-	Crop Uptake	173	36	216
=	losses\residual	60	82	342

Year: **2012**

Coldstream Farms

Acres: 75.6 | Field # 21 Park | 2012 2011 Crop: Grass:Grass

Soil: Larush | Silt Loam | Bulk density: 1.11 | Date Planted: | Variety:

Soil Test

Date	OM %	pH	P ppm	K ppm	B ppm	Zn ppm	Mg /100g	Ca /100g
10/30/2010	2.8	6.0 (6.8)	35	116	0.33	3.7	4.0	6.3

Report Card Test

Date	NO3-N ppm	NO3-N lbs/acre
14-Oct	24.5	74

Manure & Commercial Fertilizer Nutrient Application

Date	Rate G or T/acre	Method	Test #	Source	Total lbs/acre Org N	Avail. N	P	K
10-Apr	7,386	Big gun	C	Pond 1	87	50	35	173
20-Jun	14,967	Big gun	E	Pond 2	156	65	63	311
1-Sep	10,000	Aerator	F	Pond 2	26	18	10	51
10-Jul	125lbs	Top-dress	Urea		0	58	0	0
		Total per acre =			268	191	109	536

Crop Nutrient Uptake

Crop	Harvest Date	Fresh T/ac	% Dry M	Dry T/ac	% on dry basis C. Prot	P	K	Total lbs/acre N	P	K
Grass	Season	15.00	30%	4.50	17	0.4	3.2	245	36	288
				0.00				0	0	0
			Total	4.50			Total	245	36	288

Nutrient Balance

		N	P	K
+	Manure/Fert Available N	191	109	536
+	Mineralization Estimate	120		
-	Crop Uptake	245	36	288
=	losses\residual	66	73	248

Year: **2012**

Coldstream Farms

Acres: 12.4 | Field # 22 Mosquito Corner | 2012 2011 Crop: Corn:Corn

Soil: Puyallup Sandy Loam | Bulk density: 1.30 | Date Planted: 13-Jun | Variety: 2998 RR

Soil Test

Date	OM %	pH (buffer)	P Bray ppm	K ppm	B ppm	Zn ppm	Mg /100g	Ca /100g
10/30/2010	3.2	6.0 (6.7)	9	79	0.5	1.1	4.2	3.5

PSNT Test Date	NO3-N 0-1' PPM
22-Jul	32.7

Report Card Test Date	NO3-N ppm	NO3-N lbs/acre
3-Nov	13.4	46

Manure & Commercial Fertilizer Nutrient Application

Date	Rate G or T/acre	Method	Test #	Source	Total lbs/acre Org N	Avail. N	P	K
26-May	9,419	Tanker	C	Pond 1	111	71	45	221
2-Apr	8.1	Spreader	Z	Solids	74	4	18	42
13-Jun	250lbs	Planter	19:19:19		0	48	21	40
	None	Side-dress	N32		0	0	0	0
				Total per acre =	185	123	83	303

Crop Nutrient Uptake

Crop	Harvest Date	Fresh T/ac	% Dry M	Dry T/ac	% on dry basis C. Prot	P	K	Total lbs/acre N	P	K
Corn	Oct	24.00	25%	6.00	9	0.3	1.8	173	36	216
				0.00				0	0	0
			Total	6.00			Total	173	36	216

Nutrient Balance

		N	P	K
+	Manure/Fert Available N	123	83	303
+	Mineralization Estimate	100		
-	Crop Uptake	173	36	216
=	losses\residual	50	47	87

Year: **2012**

Coldstream Farms

Acres:	16.6	Field #	23 West Gravel Pit	2012 2011 Crop:	Corn:Corn
Soil:	Puyallup	Sandy Loam			
	Bulk density:	1.30	Date Planted: 28-May	Variety:	2998 RR

Soil Test

Date	OM %	pH (buffer)	P Bray ppm	K ppm	B ppm	Zn ppm	Mg /100g	Ca /100g
10/30/2010	3.3	6.2 (6.7)	15	122	0.5	1.9	4.9	3.1

PSNT Test Date	NO3-N 0-1' PPM
22-Jul	31.4

Report Card Test Date	NO3-N ppm	NO3-N lbs/acre
3-Nov	23.4	80

Manure & Commercial Fertilizer Nutrient Application

Date	Rate G or T/acre	Method	Test #	Source	Total lbs/acre Org N	Avail. N	P	K
16-May	15,289	Big gun	C	Pond 1	179	82	73	359
12-Jul	20,366	Big gun	F	Pond 2	52	22	21	104
28-Jul	20,366	Big gun	F	Pond 2	52	20	21	104
23-Mar	16.9	Spreader	Z	Solids	155	9	37	88
13-Jun	250lbs	Planter	19:19:19		0	48	21	40
	None	Side-dress			0	0	0	0
			Total per acre =		439	179	173	695

Crop Nutrient Uptake

Crop	Harvest Date	Fresh T/ac	% Dry M	Dry T/ac	% on dry basis C. Prot	P	K	Total lbs/acre N	P	K
Corn	Oct	24.00	25%	6.00	9	0.3	1.8	173	36	216
				0.00				0	0	0
			Total	6.00			Total	173	36	216

Nutrient Balance

		N	P	K
+	Manure/Fert Available N	179	173	695
+	Mineralization Estimate	100		
-	Crop Uptake	173	36	216
=	losses\residual	107	137	479

Year: **2012**

Coldstream Farms

Acres: 8.9

Field # 24 Mosquito Lake Road

2012 2011

Crop: Corn:Corn

Soil: Larush | Silt Loam

Bulk density: 1.10

Date Planted: 28-May

Variety: 2998 RR

Soil Test

Date	OM %	pH (buffer)	P Bray ppm	K ppm	B ppm	Zn ppm	Mg /100g	Ca /100g
10/30/2010	3.0	5.9 (6.6)	17	124	0.21	2.1	3.1	5.4

PSNT Test Date	NO3-N 0-1' PPM
22-Jul	31.4

Report Card Test Date	NO3-N ppm	NO3-N lbs/acre
3-Nov	31.4	94

Manure & Commercial Fertilizer Nutrient Application

Date	Rate G or T/acre	Method	Test #	Source	Total lbs/acre Org N	Avail. N	P	K
16-May	17,110	Big gun	C	Pond 1	201	92	82	402
12-Jul	20,366	Big gun	F	Pond 2	52	22	21	104
28-Jul	20,366	Big gun	F	Pond 2	52	20	21	104
13-Jun	250lbs	Planter	19:19:19		0	48	21	40
	None	Side-dress	N32		0	0	0	0
			Total per acre =		305	180	145	650

Crop Nutrient Uptake

Crop	Harvest Date	Fresh T/ac	% Dry M	Dry T/ac	% on dry basis C. Prot	P	K	Total lbs/acre N	P	K
Corn	Oct	24.00	25%	6.00	9	0.3	1.8	173	36	216
				0.00				0	0	0
			Total	6.00			Total	173	36	216

Nutrient Balance

		N	P	K
+	Manure/Fert Available N	180	145	650
+	Mineralization Estimate	100		
-	Crop Uptake	173	36	216
=	losses\residual	108	109	434

Year: **2012**

Coldstream Farms

Acres: 22.8 Field # 25

2012 2011
Crop: Grass:Grass

Soil: Larush | Silt Loam
Bulk density: 1.06

Date Planted:

Variety:

Soil Test

Date	OM %	pH (buffer)	P ppm	K ppm	B ppm	Zn ppm	Mg /100g	Ca /100g
10/30/2010	4.0	5.6 (6.4)	14	79	0.83	2.4	4.2	3.1

Report Card Test

Date	NO3-N ppm	NO3-N lbs/acre
14-Oct	18	52

Manure & Commercial Fertilizer Nutrient Application

Date	Rate G or T/acre	Method	Test #	Source	Total lbs/acre Org N	Avail. N	P	K
16-Mar	8,905	Big gun	D	Drycow	47	27	19	94
17-Sep	11,132	Big gun	D	Drycow	59	27	24	117
20-Jul	125lbs	Top-dress	Urea	N46	0	58	0	0
			Total per acre =		106	112	43	211

Crop Nutrient Uptake

Crop	Harvest Date	Fresh T/ac	% Dry M	Dry T/ac	% on dry basis C. Prot	P	K	Total lbs/acre N	P	K
Grass	Season	15.00	30%	4.50	17	0.4	3.2	245	36	288
				0.00				0	0	0
			Total	4.50			Total	245	36	288

Nutrient Balance

		N	P	K
+	Manure/Fert Available N	112	43	211
+	Mineralization Estimate	120		
-	Crop Uptake	245	36	288
=	losses\residual	(13)	7	(77)

Year: **2012**

Coldstream Farms

Acres: 16.1 | Field # 26 | 2012 2011 Crop: Grass:Grass

Soil: Oridia | Silt Loam | Bulk density: 0.99 | Date Planted: 2008 | Variety:

Soil Test

Date	OM %	pH (buffer)	P ppm	K ppm	B ppm	Zn ppm	Mg /100g	Ca /100g
10/30/2010	5.6	5.4 (6.1)	16	74	0.71	1.4	3.7	3.1

Report Card Test

Date	NO3-N ppm	NO3-N lbs/acre
14-Oct	27.7	75

Manure & Commercial Fertilizer Nutrient Application

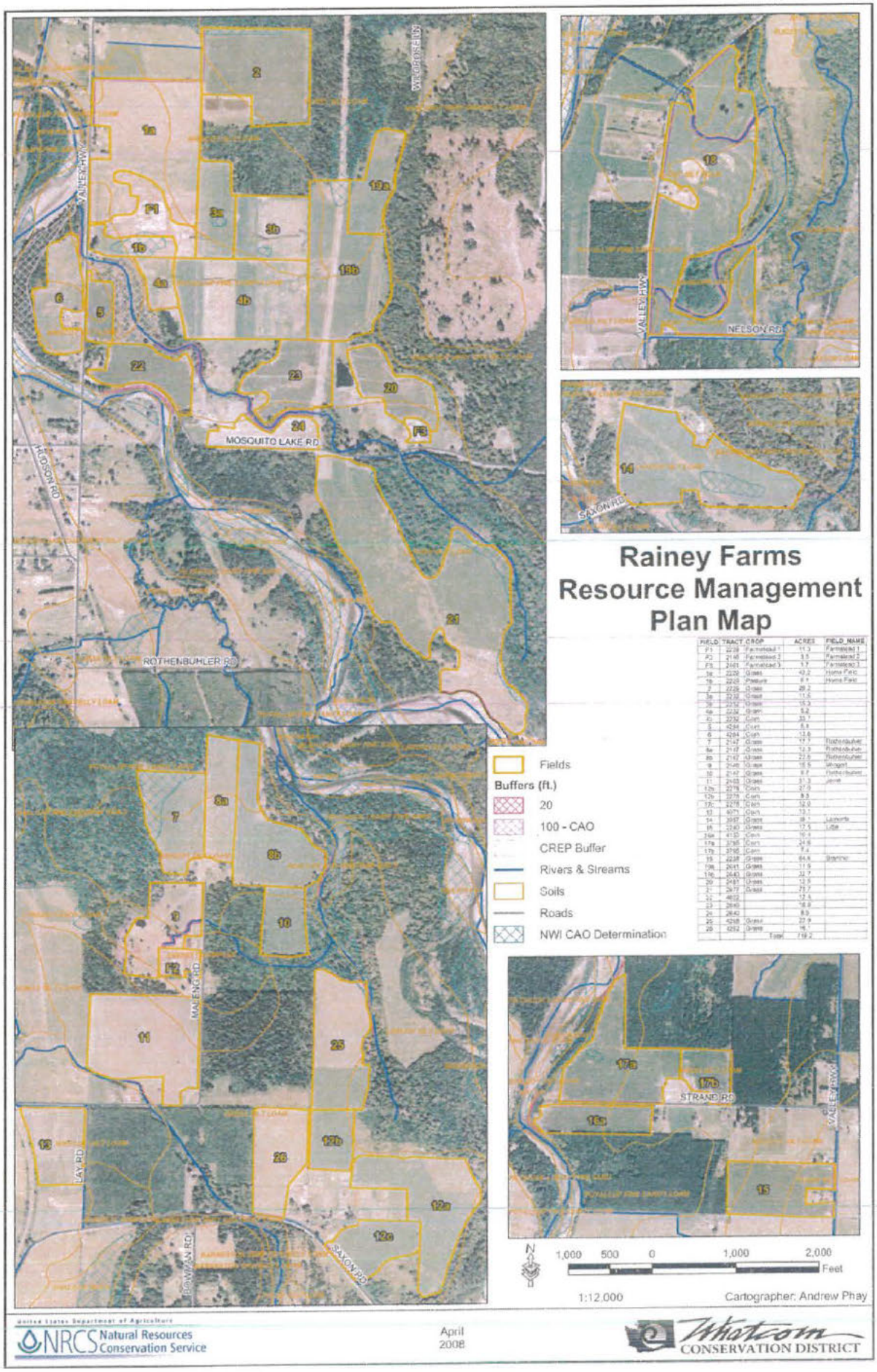
Date	Rate G or T/acre	Method	Test #	Source	Total lbs/acre Org N	Avail. N	P	K
16-Mar	12,611	Big gun	D	Drycow	67	39	27	133
17-Sep	15,764	Big gun	D	Drycow	83	38	34	166
20-Jul	125lbs	Top-dress	Urea	N46	0	58	0	0
		Total per acre =			150	135	61	299

Crop Nutrient Uptake

Crop	Harvest Date	Fresh T/ac	% Dry M	Dry T/ac	% on dry basis C. Prot	P	K	Total lbs/acre N	P	K
Grass	Season	15.00	30%	4.50	17	0.4	3.2	245	36	288
				0.00				0	0	0
			Total	4.50			Total	245	36	288

Nutrient Balance

		N	P	K
+	Manure/Fert Available N	135	61	299
+	Mineralization Estimate	120		
-	Crop Uptake	245	36	288
=	losses\residual	10	25	11



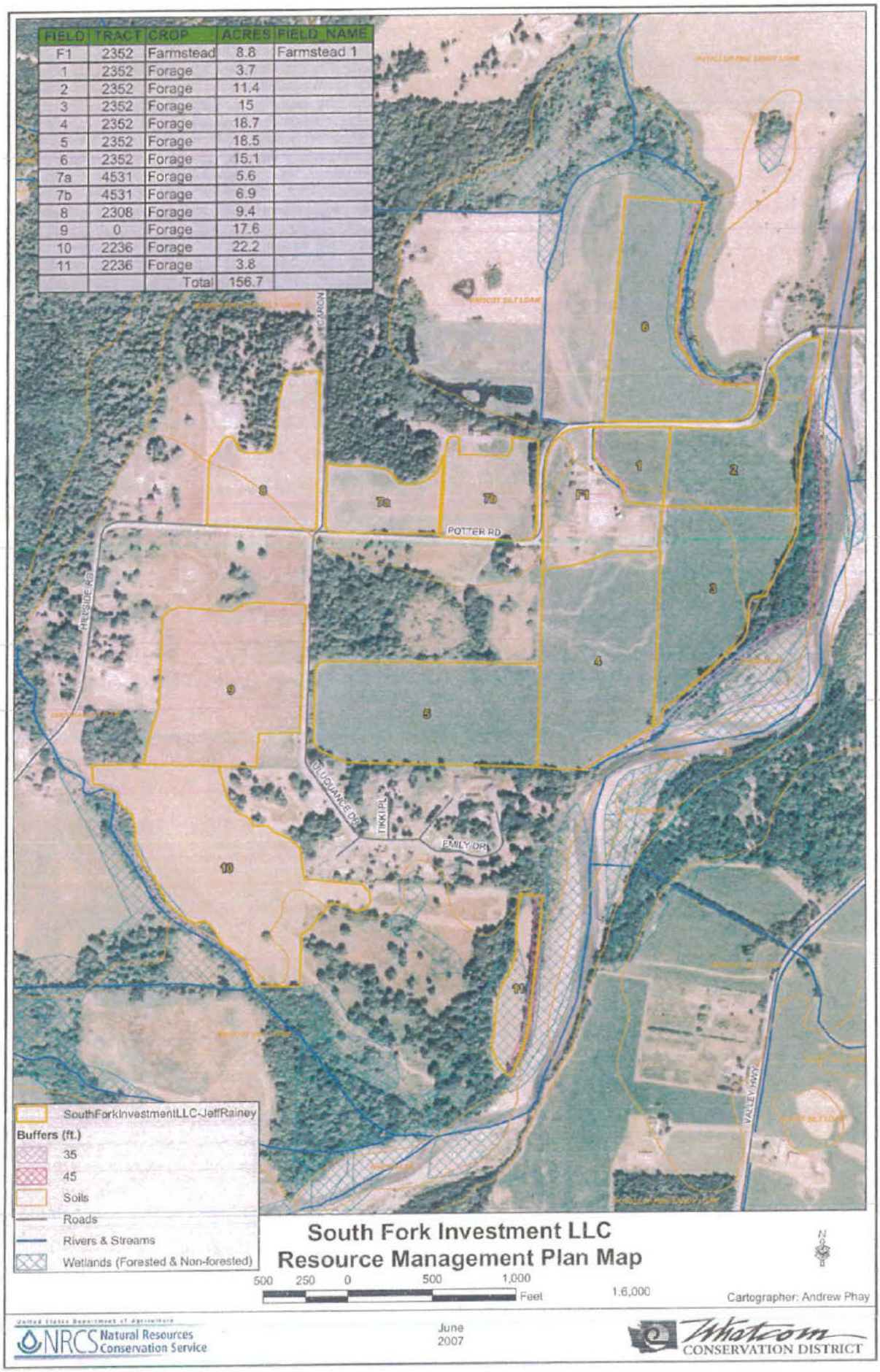
Rainey Farms Resource Management Plan Map

FIELD	TRACT	CROP	ACRES	FIELD_NAME
F1	2238	Farmstead 1	11.3	Farmstead 1
F2	2146	Farmstead 2	3.5	Farmstead 2
F3	2401	Farmstead 3	3.7	Farmstead 3
1a	2239	Grass	42.2	Home Field
1b	2239	Pasture	8.9	Home Field
2	2238	Grass	28.2	
3a	2238	Grass	11.5	
3b	2238	Grass	15.3	
4a	2238	Grass	5.2	
4b	2238	Grass	30.7	
5	4284	Corn	8.1	
6	4284	Corn	13.6	
7	2147	Grass	11.9	Rothenbuhler
8a	2147	Grass	12.3	Rothenbuhler
8b	2147	Grass	22.5	Rothenbuhler
9	2146	Grass	15.5	Wagon
10	2147	Grass	8.7	Rothenbuhler
11	2403	Grass	51.3	Jones
12a	2278	Corn	27.0	
12b	2278	Corn	8.3	
12c	2278	Corn	12.0	
13	6071	Corn	13.1	
14	3937	Grass	9.1	Lazarte
15	2240	Grass	12.5	Lute
16a	4132	Corn	10.4	
16b	3795	Corn	21.9	
17a	3795	Corn	7.4	
17b	4238	Grass	64.8	Granny
18a	2641	Grass	11.9	
18b	2643	Grass	22.7	
20	2481	Grass	12.9	
21	2477	Grass	73.7	
22	4832		12.5	
23	2840		18.8	
24	2840		8.9	
25	4248	Grass	22.9	
26	4252	Grass	16	
		Total	719.2	

United States Department of Agriculture
NRCS Natural Resources Conservation Service

April 2008

Whatcom CONSERVATION DISTRICT


FIELD | TRACT | CROP | ACRES | FIELD_NAME
F1 | 2352 | Farmstead | 8.8 | Farmstead 1
1 | 2352 | Forage | 3.7
2 | 2352 | Forage | 11.4
3 | 2352 | Forage | 15
4 | 2352 | Forage | 18.7
5 | 2352 | Forage | 18.5
6 | 2352 | Forage | 15.1
7a | 4531 | Forage | 5.6
7b | 4531 | Forage | 6.9
8 | 2308 | Forage | 9.4
9 | 0 | Forage | 17.6
10 | 2236 | Forage | 22.2
11 | 2236 | Forage | 3.8
Total | 156.7
POTTER RD
PRESCOTT RD
CARON
VALLEY HWY
SouthForkInvestmentLLC-JeffRainey
Buffers (ft.)
35
45
Soils
Roads
Rivers & Streams
Wetlands (Forested & Non-forested)
South Fork Investment LLC
Resource Management Plan Map
500 250 0 500 1,000
Feet
1:6,000
Cartographer: Andrew Phay
June
2007
NRCS Natural Resources Conservation Service
Whatcom CONSERVATION DISTRICT

soiltest
farm consultants, inc.
2925 Driggs Dr., Moses Lake, Wa 98837 - www.soiltestlab.com
Office: (509)765-1622 - Fax:(509)765-0314 - (800)764-1622

N3 CONSULTING
501 JUDSON ST
LYNDEN, WA 98264

DATE REC 10/19/2012

SOIL RESULTS

	SAMPLE I.D.	LAB NO	NO3-N mg/kg
RAINEY COLDSTREAM.	1S	14518	24.8
	1N	14519	26.6
	2	14520	77.3
	3 NEW	14521	82.1
	3	14522	24.5
	4	14523	62.7
	19	14524	63.5
	20	14525	33.9
	23	14526	15.5
	17	14527	6.9
	18N	14528	4.0
	18S	14529	22.3
	7	14530	10.6
	8	14531	20.6
	9	14532	4.6
	11	14533	44.7
	19N	14534	8.9
RAINEY 2	1	14535	23.3
SOUTH FORK INVESTMENT.	2&3	14536	21.8
	4	14537	12.6
	5	14538	29.0
	6	14539	15.8
	7	14540	8.1
	8	14541	9.0
	9	14542	9.6
	10	14543	10.1
	12	14567	11.3
COLDSTREAM	10	14568	38.3
	14	14570	4.5
	16	14571	13.2
	21	14572	31.2
	22	14573	10.6
	24	14574	10.7
	25	14575	1.9
	26	14576	3.9
	5&6	14577	5.2

Washington State
Conservation
Commission

CERTIFICATION OF DAIRY NUTRIENT MANAGEMENT PLAN

Conservation District: implementation certification

The Whatcom Conservation District certifies that **Jeff Rainey** has constructed or otherwise put in place the elements necessary to implement this dairy nutrient management plan.

Bastian Scholten
District Representative

12-12-01
Date

Dairy Producer: management certification

I, **Jeff Rainey** certify I am managing dairy nutrients as specified in this dairy nutrient management plan developed specifically for my operation, and approved and certified by my local conservation district.

Jeff Rainey

12-12-01
Date

Instructions:

The conservation district board should certify the plan at a board meeting.

When the form has been signed and dated by both the district and the producer, the district should send a copy to:

Washington Department of Ecology
Water Quality Program
PO Box 47600
Olympia, WA 98504-7600
Attn: Ken Koch

Revised February 9, 2000

SECTION 4 — STORAGE & TRANSFER

4.11 Storage Facilities

Proper nutrient management requires agronomic application of manure. Waste must be stored when conditions are not appropriate for the application. The Whatcom Conservation District and the Natural Resources Conservation Service recommend a minimum storage period of six months for this climate to ensure adequate storage during the winter months when application is not possible.

The Dairy Waste Calculation Worksheet presents the waste storage needs for a 6 month period. Also included in the worksheet is the estimated gallons of wash water generated by the operation, precipitation falling on the surface of the lagoon during the storage period, and precipitation from a 25-year, 24-hour storm event.

The outside dimensions for pond #1 are approximately 230' x 150' x 10' deep with a capacity of about 1.3 million gallons and a surface area of 34,500 square feet.

Pond #2 is approximately 270' x 180' x 10' deep with a capacity of about 2.1 million gallons and a surface area of 48,600 square feet.

Pond #3 is approximately 360' x 180' x 9.5' deep with a capacity of about 2.4 million gallons and a surface area of 64,800 square feet.

Available storage for liquid waste generated by the operation totals approximately 6.3 million gallons:

Storage Area	Gallons
Storage Pond #1	1,389,077
Storage Pond #2	2,168,299
Storage Pond #3	2,469,436
Total	6,276,812

4.12 Potential Sources of Contamination

Overflowing storage ponds can impact surface and ground water and lead to catastrophic failures of dikes.

4.13 Plan

Maintain storage volume in the ponds by periodic agitation to prevent solids buildup. Clean ponds if storage capacity is diminished by over 20% due to solids buildup.

4.21 Transfer Description

Solid manure applications are most commonly done with a spreader truck. Spreader trucks typically carry about 10 tons per load. At about 3 pounds of nitrogen per ton of manure, each truckload contains about 30 pounds of nitrogen. All solids are hauled to off-site acres via spreader trucks.

Liquid manure is pumped from the first stage to the second stage of the waste transfer system. Liquid manure flows from the second stage to the third stage of the storage pond through a PVC pipe connecting the two stages of the pond.

From the ponds, the liquids are pumped through a mainline to a traveling big gun for application to on-site acres.

4.22 Potential Sources of Contamination

Blowouts of pipelines or hoses.

4.23 Plan

Maintain the existing transfer system by regular flushing of buried mainlines and regular maintenance of application equipment.